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MANUAL

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COIMBATORE DISTRICT

IN THE

PRESIDENCY OF MADRAS.

30543

BY

F. A. NICHOLSON, Esq., M.C.S.,
ACTING COLLECTOR, ANANTAPUR.

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PREFACE.

THE present Manual has been compiled in the not too frequent leisure from official work, and it has consequently suffered from the difficulties attendant on discontinuous thought and research; the reader's indulgence is therefore requested for imperfections of which the compiler is but too conscious.

The historical chapter will be found extremely brief; the reason has been mentioned in a note at the beginning of the chapter. If the memorial verse regarding Kongu should prove to be authentic it fills a hiatus hitherto existing in South Indian Political Geography. Materials for what appeared to be most desirable in the historical section, viz., a record of the condition of the country and its inhabitants in successive centuries, or under successive dynasties, are almost wholly wanting; some slight sketch, in which the student of history and society may supply details, has been attempted in this chapter *ad finem*, which may be read with the beginning of the chapter on Revenue History (Chapter V), with that on Other Sources of Revenue (Chapter VII) and with the section on the Ancient Police Systems in Chapter XII. The impossibility of finding materials in the past for gauging progress, and for elucidating present peculiarities in the character, condition and customs of the ryots is much to be regretted. It is possible, however, that the records locally obtained by Colonel Mackenzie shortly after the assumption of the district by the British, may provide materials for research, as stated in a note at the beginning of the historical chapter.

For a sketch of the present condition and characteristics of the ryot as required by the original scheme for District Manuals, recorded materials are again wanting; except casual allusions in Collectors' letters, and a special report in 1839, there is nothing on record regarding the ryots' social and economic position up to date under British rule, and inference from such facts and figures as could be obtained was alone possible for the chapter entitled "Economic Condition." For

the present decade it has been attempted to sketch his position as it appeared to the compiler during five years' residence in the district, but, as pointed out, a study of the Registration Office records, as well as of civil suits and of money-lenders' bonds, is necessary for an examination of his economic position. His solvency or his indebtedness, the value of his fixed capital in the shape of land, the classes who borrow and those who lend money, to the present amount, be it noted, of many lakhs per annum, the occasions and seasons at or for which money is most required,—these and other economic facts of the highest importance may be elucidated by a severe and critical study of the above-named records. Meanwhile it may be observed that those who deal in land, either by lending or buying, must either be ryots or of the mercantile class; if the former, the vastness of the transactions and the paucity of suits and professional conveyancers are excellent evidence of the value of land and the ease of transfer; if the latter, there can be no better evidence of a certain value in the land, since money-lenders and merchants can be found to advance such vast annual sums upon its credit.

It is, however, impossible fully to deal with the matter unless it be known whether the transactions are but periodical repetitions of loans, either as mere renewals, or as fresh borrowings on the same land after repayment of former loans; for this a very complete study of the records is needed. It has long appeared to the compiler that the French system of public registration in which all village survey fields are consecutively entered in a register in the Registry office, and each transaction is noted up against each field, so that its precise encumbrances, if any, are at once known, would be a most valuable addition to the present system, both for the ease of intending purchasers and as an easy guide for ascertaining the state of a village in the matter of indebtedness, and the value of land.

Whether the above transactions are satisfactory as an evidence of the ryots' personal characteristics in the way of thrift and prudence, is another question; on the one hand many of the transactions are certainly due to the most reckless borrowing and extravagance, while some are probably due to a calculated use of the credit which the value of the land gives him.

The position of tenants and the conditions of leases are very obscure subjects, since 99 out of 100 leases are oral and customary. The position of the labourer is more easily defined, as mentioned in the chapter in question.

Chapter VIII, on Agriculture, depends for its statistics and record of practice upon personal observation and enquiry, in which the notes of Mr. Kristna Rao, mentioned in the footnote on page 247 and late Agricultural Inspector in Kurnool, have been of much service. The ryot's practice appears to be neither all good nor all bad; it is not all good, for science and agricultural education, let alone other matters, are as yet no factors in his dealings, nor has he the power of manufacturing and using improved implements, while certain mental qualities appear to need developing: nor is it all bad, for he is industrious and skilled with the experience of centuries. A study of the agricultural practices, the rural economy and agricultural education of the peasant proprietors of other countries and the methods in which Government assists them in progress, would probably afford data for more positive and direct aid to the ryot than he has yet received.

In the chapters on Revenue History the earlier one attempts to deal with the old system before the introduction of the new settlement in 1879-82. Only so much has been entered as contributed to an understanding of the present system and of the position of the ryot; for this purpose the matter has been dealt with by subjects, rather than by years or by Collectors; in writing by years it was found impossible to give a connected view of each important subject, and though the comparative absence of the names and actions of individual Collectors deprives the history of the charm of personality, it is hoped that the subjects are sufficiently interesting to the local student to atone for the want. It is, however, a source of pride to be able to point out in the Revenue History of the district the names of such Collectors as Messrs. Thackeray, J. Sullivan, James Thomas, P. Grant and E. B. Thomas, not to mention more recent incumbents; to the personal and long-continued efforts of these officers are due much of the gradual relaxation of inquisitorial restrictions, the freedom of the ryot to use his own capital without taxation, and the encouragement of well-digging and tree-planting. The names of several of the above Collectors are still in the memories of

the ryots ; the story is still current how, in cases of failure of the monsoon, the ryots would hasten to Mr. J. Sullivan and beg that he would tour, as rain-bringer, through the district, while Mr. E. B. Thomas is remembered for his advocacy of the freeing of well-lands from the special garden assessment, for the planting of topes, and for his intimate personal contact with the ryots.

The section on the district mammalia is condensed from a notice written some years ago by the Rev. W. Jackson ; as far as possible his own words are used. Thanks are due to him for the interesting notes thus made available ; also to Mr. A. W. Peet for his contribution on the forests of the district.

As the table of contents which immediately follows this preface seems sufficiently full as a guide to the reader, no index has been added.

ANANTAPUR, }
9th February 1887. }

F. A. NICHOLSON.

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COIMBATORE MANUAL.

CHAPTER I.

PHYSICAL GEOGRAPHY.

Area.—Configuration.—Drainage and River Systems.—Mountain Chains, South and North.—Territorial Divisions.—Climate and Meteorology.—Famines and Seasonal Calamities.

THE district of Coimbatore is situated between $10^{\circ} 45'$ and $11^{\circ} 48'$ N. latitude, and $76^{\circ} 50'$ and $78^{\circ} 10'$ E. longitude. To the north lie Mysore and a corner of the Salem district, which is also its neighbour on the east, the Cauvery river being throughout its immediate boundary. A corner of the Trichinopoly district touches it on the south-east, Madura and the Travancore territory bound it upon the south, and on the west lie Cochin and the Malabar and Nilgiri districts. On the north-west, west, and south it is shut in by the mountain chains of the Western Gháts, of which the Nilgiris on the north-west and the Anaimalais on the south are the chief ranges; the spurs of these hills, known as the Velliyangiri and Kúch Malai ranges respectively, closely approach one another, running due north and south a few miles southwest of Coimbatore, leaving, however, between them the pass to the west coast known as the Pálghát gap, the importance of which in a climatic and commercial point of view can hardly be over-estimated.

AREA.—Its total area is about 7,842 square miles, of which 6,554 have, with the pálniyapats, been topographically surveyed, the remainder being unsurveyed hilly and forest tracts; it ranks seventh in size in the presidency, and is divided into 10 taluks containing 1,562 villages, of which 1,447, including 10 towns, were inhabited in 1881. The Nilgiris were separated and formed into a distinct district in 1868.

CONFIGURATION.—The Kollegal taluk to the north, lies above gháts and forms part of the Mysore plateau; it is wholly distinct from the rest of the district, from which it is separated by the hill ranges of Satyamangalam and Bhaváni; these are traversed by several passes of more or less difficulty, which the rulers of Mysore descended when invading their southern neighbours, but which are now the highways of trade. This large taluk is full of hills and forests which drain direct into the Cauvery; its general elevation is between 2,000 and 3,000 feet, with hill ranges rising to various heights. The general aspect of the other nine taluks is that of an undulating plain, bounded on the north, south and west by lofty hills, and, with the exception of a small area on the

extreme west, sloping gradually from the west to the Cauvery on the east and south-east. The following table gives the elevations of the stations of the Madras Railway, which, entering the district at the Cauvery near Erode, traverses it from east-north-east to west-south-west, and of the South Indian Railway, which follows the Cauvery from Erode to below Karúr; by these the general slope of the country will be clearly seen. Sankaridrúg belongs to Salem and is entered to show the depth of the Cauvery valley :—

Madras Railway.			South Indian Railway.		
Station.	Mile.	Height above M.S.L.	Station.	Mile.	Height above M.S.L.
Sankaridrúg (Salem) ..	230	872.23	Erode	338	542.22
Cauvery bridge (Erode) ..	241	504.96	Pañér	325	497.50
Erode	243	540.70	Usjalár	317	448.53
Perundarai	252	851.06	Kodumudi	313	431.48
Úttakudi	266	870.06	Págarár (on a local elevation).	305	506.00
Tirupúr	274	987.18	Karúr	296	391.00
Sómanúr	286	1,117.49			
Podanúr	301	1,305.87			
Modukarai	307	1,115.21			
Wálsyár	316	689.41			
Coimbatore (Nilgiri branch).	308	1,303.18			

This sloping plain is gently undulating throughout except in the black cotton soil tracts of Udamalpet, Palladam and Coimbatore; it is broken only by a few scattered hills of slight elevation, such as Chennimalai of Erode and Sivanmalai of Dhárápúram taluks. The undulations are—major, viz., the great watersheds dividing river from river, as the Kángyam ridge, from which the country slopes north to the Nóyil and south to the Amarávati; and minor, viz., the numerous petty ridges and bottoms which diversify a large area and afford opportunities for the numerous wells and rich gardens which save much of the district from desertion.

DRAINAGE AND RIVER SYSTEMS.—Except for a small stream (Pálar) flowing westward from the west of the Udamalpet to the Polláchi taluk and thence to Malabar, the whole drainage falls into the Cauvery either directly or by the Nóyil and Amarávati. Its rivers are the Cauvery, Bhaváni, Nóyil, Amarávati, and Áliyár, with their tributaries.

The Cauvery forms the immediate north-north-east and east boundary for 185 miles and first touches the district at Kollegál, near which are the great Sivanmudram falls; thence sweeps south to Bhaváni, where it is joined by the Bhaváni river, and thence east to Trichinopoly, receiving the Nóyil and Amarávati rivers before quitting the district. From June till August it is in full flood, thence subsiding gradually, but with frequent freshes during October and November. The highest flood ever known was that of July 1882, when the water rose nearly to the crown of the arches of the bridge at Bhaváni, and did great damage along its

banks (*vide* G.O., No. 1390, of 11th December 1882). The next highest flood was in November 1880. Its tributaries are tabulated below:—

Taluk.						Tributaries.
Kollegál	..	..	..	..	..	Gundal.
						Sótár.
Bhaváni	..	..	..	..	..	Honnal.
						Bhaváni.
Erode	..	..	..	..	..	Pálar.
						Nóyil.
Karúr	..	..	..	..	..	Amarávati.

The Cauvery irrigates about 5,400 acres in this district, and that only in the Kollegál and Karúr taluks. The chief places of note on its banks are Kollegál, Kávéripuram, Nerinjipettai (ruined anicut), Bhaváni, Erode, Kodumudi, Págalúr, and Nerúr. Its width at Bhaváni and Erode is 1,385 and 1,540 feet respectively, and its ordinary depth at full flood is 15 and 18 feet at those points, the additional water at Erode being due to the Bhaváni river. Its fall as far as Erode is rapid and its bed rocky; thenceforward the fall is slighter and the bed smooth.

The Bhaváni is a perennial river rising on the north-west of the district, and, receiving in its course several tributaries, of which the Nóyil is the chief, traverses for 105 miles the taluks of Satyamangalam and Bhaváni and falls into the Cauvery at Bhaváni. This river affords the best irrigation in the district by the channels of Tádampalli and Arkankottai in Satyamangalam and the Kalingariyan in Erode taluk. The chief places on or near its banks are Satyamangalam, Gopichetti-pálayam and Bhaváni. It is fed principally by the south-west monsoon, and consequently receives its first froshes about the end of May, is at its highest from June to August, and thenceforward, with occasional floods in the north-east monsoon, gradually subsides throughout the hot weather.

The Nóyil rises in the Velliyangiri hills, immediately west of Coimbatore town, in what is known as the Bolampatti valley, passes exactly through the centre of the district from west to east in its course of 108 miles, and falls into the Cauvery at Neikuppam at the junction of the Erode and Karúr taluks. It traverses Coimbatore and Palladam, and forms the northern boundary of the Dhárápuram and Karúr, and southern boundary of the Erode taluks. It is little more than a jungle stream, being dry for many months together, and then in high and rapid flood for days: this alternation has always been its characteristic, the old reports continually alluding to its fitfulness and uncertainty. Its irrigational qualities are therefore but second-rate. It chiefly depends on the south-west monsoon at its source, but is largely fed by petty affluents from the plains, which bring it down in heavy but short floods during the north-east monsoon; these affluents are mere surface streams of but local and temporary importance.

The Amarávati rises in the Travancore and Ánaimalai hills which border the Udamalpet taluk, into which it descends by the Anjenád valley, debouching into the plains near Kallápuram and Chakragiridróg, and thence flowing east-north-east through the Udamalpet, Dhárápuram, and Karúr taluks for about 140 miles till it reaches the Cauvery at Tirumakudal, where the Trichinopoly district touches Coimbatore. It receives in its course several minor affluents, such as the Uppár in Dhárápuram from the west-north-west, the Shaámuganadi from Palni on the south, and the Nangáangi and Koduganadi in the Karúr taluk also from the south. The chief places on its banks are Kumaringam, Dhárápuram, and Karúr. It is very fully utilized for irrigation throughout its course, which is marked by an almost continuous though very narrow belt of wet land, except in the heart of the Dhárápuram taluk.

The Áliyár is confined to the Polláchi taluk, and, rising in the Ánaimalais, flows west; it is of little importance.

Further details regarding rivers will be found in the taluk chapters; for a sketch of their practical importance, see "Irrigation."

MOUNTAIN CHAINS.—The mountain chains are the lofty Ánaimalais of the southern part of the district, connected with the Palni hills of Madura; the Velliyangiris, which are spurs of the Níliris on the west and north-west, and the various ranges which form the whole of the northern portion of the district in the Kollegál, Satyamangalam, and Bhaváni taluks. The Ánaimalais are a magnificent range, the highest peaks towering to a height above 8,000 feet: viewed from Polláchi and Udamalpet they are picturesque and noble in the extreme. They have been explored and described by various officers.

The hills on the north are little known; except at certain seasons they are very malarious, and, save in various localities, are almost unvisited except by the wild tribes who are sparsely scattered over them. Individual ranges bear names, such as the Bargár hills of Bhaváni, which separate that taluk from Kollegál. The following sketches of the hill ranges are abstracted by permission from the "Hill Ranges of Southern India," edited by J. Shortt, Esq., M.D., &c., and from various official reports and other sources.

Ánaimalais.—*Upper plateau.*—This is entirely uninhabited, and there are practically no roads after ascending the ghát. It is well adapted for a sanitarium in point of healthiness, climate, and scenery, but being without roads or inhabitants, it is not likely to be utilized for many years, especially as the people of the plains can hardly be got to ascend the hills. The only game which exist in any quantity are the ibex (*Capreolus*) and occasional herds of bison. Small game are entirely absent. Elephants visit the plateau in considerable numbers during the south-west monsoon.

The difficulty of access and absence of labor will probably long prevent planters from utilizing the magnificent stretches of land suitable for coffee, tea and cinchona.

The roads up are (1) by Púndi and Torakadavu river valley, (2) by Dhalli, Trimúrahukovil and Pávamalai, (3) by Punáchimalai ghát, which is now in good order.

Michael's valley, 6,000 feet above the sea, is well suited for a sanitarium (*vide* report in *Revenue Register* for December 1874). The Ánaimudi plateau is about 7,000 feet above sea level, and probably has a climate similar to that of Ootacamund or the Kundaha; the Ánaimudi peak is the highest in Southern India, being 8,850 feet above the sea—(Branfill).

The hill slopes of this part are inhabited by jungle tribes, viz., the Puliars and Maduvars. The former occupy the low-lying villages of Púndi, Mávadop, Kurumalai and Venthiam, and live by cultivation, the produce of their lands, and the sale of forest and village produce to the people of the low country. They are timid and lazy, but will carry moderate loads of luggage, which they strap on their backs. They are "inveterate liars," and it is impossible for a stranger to get reliable information from them. They collect honey from three kinds of bees, viz., the rock bee, the tree bee, and a bee which builds a small nest about the size of a goose's egg on the bare stem of a bush. Only the rock bees are dangerous, as they attack in swarms. Colonel Hamilton gives the same account of the lying propensities of the people, and adds some remarks as to their customs, in which, however, he apparently puts little credence. A noticeable feature is the habit among the males of allowing the hair to grow and coiling it in masses on the head, the hair in one case lying a foot on the ground when uncoiled.

The Maduvars have a few cattle, and live by casual cultivation, by jungle produce, and by hunting; they are very shy and afraid of Europeans, and will not carry burdens. They are somewhat nomadic, usually shifting their residence after a year or two. Many of them have matchlocks and shoot ibex, but they usually snare them with nooses and nets.

The Malasars inhabit the lower slopes to the north and west.

For further details as to these hills see Colonel Hamilton's report of 18th December 1865 accompanying his sketches, the *Revenue Register* for December 1874, and Cleghorn's "Forests and Gardens of Southern India."

The lower ranges of the Ánaimalais lie to the westward of the Uppár range, and are reached by Ánaimalai and the Tánakadavu ghát; these comprise the celebrated teak forests. Kúchmalai, near the north-western extremity, is a noticeable landmark.

North Coimbatore.—The hill ranges are eight in number; on the west, Sholakarai and Bolampatti; north of these, the Lambton Peak range, proceeding west and north-west; the Talai-malai, Hassanúr, Bargúr, Biligirirangam, Mahádeswara, and finally the Punáchi hills.

The Sholakarai and Bolampatti ranges are partly in this district, partly in Malabar; the woodcutter for the Coimbatore town and

railway, and the kumari cultivator, have largely destroyed the splendid forest which once clothed the bases of these hills, and "where elephants and bison roamed not thirty years ago, there are now numerous deserted fields and low thorny scrub jungle."¹

These hills are unhealthy at most seasons, especially from February to June; the highest peaks rise several thousand feet, but the ordinary elevation is much less.

The evergreen forests on the higher ranges contain, with some exceptions, ordinary shola timber of little value. Ibex, panthers and tigers frequent the hills, and bison are found in the hot weather, when the dwarf bambu and succulent *scanthus* give good feeding. Sambur on the lower hills are numerous and bears occasional. In the deciduous forest of the foot of the hills are found both large and small game. The inhabitants are Mudugars, Irulars, and Malasars. The Irulars are drunken, lazy and thriftless,² superstitious, and polygamists; persevering hunters and good shots. The Kurumbars, living at medium elevations, are of the usual character, and are held in superstitious dread by the other tribes and by those of the low country.

The Malasars are found at the foot of the hills.

The Lambton Peak range immediately overlooks Coimbatore town, and ends on the south-east close to Tudiyalūr station. It is a mere off-shoot of the Bolampatti range; the highest peaks are about 4,000 feet in height, and are waterless slopes covered with grass and scrub. Jungle fowl and a few deer are found, and occasionally bison. Irulars are the only inhabitants.

The Nilgiri slopes border the district from the west to Gazalhatti. Kurumbars and Irulars are the usual inhabitants, and live by collecting forest produce and by petty cultivation. As usual, the produce is bartered with the low-country traders, who keep them in debt while deriving large profits. The lower slopes are regularly harried by the ryots of the neighbouring low-country villages, who destroy everything that has life without regard to season. The hill men are said to obtain fish by poisoning the water with the crushed seeds of *nux-vomica*.

The Hassanūr, Bargūr, Kokarai (Mahādeswara), and Punāchi hills range from 2,500 to 4,500 feet, and run from Gazalhatti on the north-

¹ This loss, which seriously affects the water-supply of the Nōyil river, and the timber and fuel supply of Coimbatore town, is now being repaired by constituting a large reserve forest in this locality.

² Dr. Shortt, in his account of the tribes of the Nilgiris, pages 62 and 63, also speaks of Irulars, who "occupy the lower slopes and jungles that skirt the base of the Nilgiris" near Mattupālayam. He found them an idle, dissolute set, wandering through the forests, and subsisting on occasional rude cultivation and forest produce. But he adds that of late they have been wonderfully improved by mixing with others and by working on plantations side by side with other natives; their physique is good, they are sufficiently intelligent, and are said to give satisfaction to the planters who employ them.

west to the Cauvery river on the east, and from the Bhaváni on the south to the Cauvery on the north, occupying an area of above 1,000 square miles. The wild tribes are the Sholagars and a few Irulars. There are numerous villages and patches of cultivation spread over the area and held by Canarese Sivacháras or Lángáyats. There are also some Naiks and Chucklers, and two colonies of hill Veilálars (Malai-yális) similar to those on the Shevaroyes and Kollaimalais. All classes possess guns, and have almost cleared the forests of game for the sake of the skins which are sold to the Chucklers. Cattle-breeding is extensively carried on, the whole country being a grazing ground; the cattle, although good, might be improved, especially by castrating all the worthless young bulls which now propagate a deteriorated breed, and allowing only selected stud bulls. Grass is abundant, but cattle are too numerous under the present system, no effort being made to store grass and water for the dry weather. The cattle are generally herded by the vagrant Brinjáris, who use cattle largely for the transport of grain and salt. Bison, sambur, &c., used to abound, but have been nearly exterminated by the Sholagars and murrain. Small game is still plentiful. Sandalwood is spread over the whole tract. Pándarakulis (cairns) are abundant; iron and fragments of glazed pottery² have been found in them.

The Bargúr hills are situated in the Bhaváni taluk, between it and Kollegál, and are some ten miles long and fifteen broad, and connected on the north and west with the Kollegál hills. The plateau is about 3,000 feet in height, with peaks rising to above 4,000 feet, and contains twenty-eight villages.

The road from Erode to Kollegál is by Bhaváni (9 miles), Andiyúr (21), foot of the ghát (29), Támaraikarai at the head of the ghát (37). There is a fair driving road to the foot, and the ghát up is passable by carts, the gradient being one in sixteen. Bargúr village is five miles further on, and at the north edge of the plateau; four miles further lies Thattukarai. The villages are straggling, as each family or group lives on its own estate, which is carefully fenced, with an additional fence round the houses and cattle yards.

The climate is dry, but good water is got freely by digging wells; the hills are not much affected by either monsoon, and appear to be healthy. Lieutenant and Mrs. Taylor lived up there frequently and found them neither feverish nor otherwise unhealthy; they are, however, the only Europeans who have ever spent any time there. The elevation being moderate, the climate resembles that of the Shevaroyes or Bangalore.

The inhabitants are chiefly Canarese Lángáyats (Sivacháras),

² These are probably varnished or polished by pressure, as in pots dug up in Ándimalai; a true glass seems wholly unknown in Southern India, except of late years, on special articles, by two or three potters.

abstaining from all flesh; their deity is Mahādeswara, whose temple is on a hill of that name in Kollegál; they have also the usual village gods. Their food consists chiefly of the millets, especially ragi, and pulses, especially mochai. Their business is agriculture, and, cultivating a good soil with some skill, they get abundant crops. They use opium as a preventive of ill-health; this is usual in the jungly parts of the district, opium being considered anti-febrile. They are in good circumstances and possess large herds of good cattle, ornaments, and brass vessels; ghee is largely exported. The Bargúr cattle are well known; they are of the Mysore breed, and are of good form and endurance; probably a cross with the Álambádi breed would still further improve them in bone and muscle. Few other animals are seen as the ryots are not flesh-eaters.

They keep *quani*-serfs of the Sholagar tribe, who are an almost wild race (shola = forest) living on the hills.

Cholera and small-pox commit great ravages on the hills to the great terror of the inhabitants; they accept vaccination however. Fever is usual in the rains, but it does not seem to be severe, as the people show no signs of it.

Shikar is abundant, both small game, deer, and panthers being found plentifully; tigers and bison are also to be met with. Tents and an arrangement for supplies from the plains are necessary; there are no bungalows on the plateau.

The Biligirirangams (*i.e.*, White mountains) rise from the Mysore tableland and the Coimbatore borders to nearly 6,000 feet in height. Beginning near Hassanúr on the south, they run for about forty miles to near Kollegál on the north. The higher range is almost entirely within this district. "There are but few inhabitants, and these are all Sholagars. The majority of this tribe are slaves belonging to the Sivachára Groundans of the lower ranges of the Bargúr hills. The more independent cultivate small patches of land with ragi, &c., wandering after harvest into the forest for wild produce. Their god is Biligiri."

These hills are the home of the elephant; though not so numerous as formerly, they are still abundant, but with few tuskers, these latter having mostly been shot. Not having been disturbed of late years either by the sportsman or kheddah establishment, they have become almost tame; the Sholagars say that "you may go and hit them with a broom and they would not even turn round to look at you." Mr. Morgan himself reports that they not only took no notice of his shots at small game, but that he actually went up within five or ten yards of a herd which came in the path, and could not get them to move by shouting, waving his coat, or throwing stones at them.

In the monsoon (south-west) it is almost impossible to traverse the deciduous forests; game and everything except the swarms of gad-flies and leeches, then desert them.

TERRITORIAL DIVISIONS.—The district was for the first five years after its acquisition divided into North and South Coimbatore, the Noyil being the line of separation; the former division was attached to Salem and the latter to Dindigul. The division was based solely on revenue convenience and not on any peculiarity in the district, which, in fact, with the exception of Kollegál and with slight additions in Salem, Trichinopoly, and Madura, formed originally a historical unit under the name of the Kongu country. A more natural division is that of the district above and below gháts, Kollegál and the hilly country of Satyamangalam and Bhaváni comprising the former, and the country south of this tract the latter. The position of the former as part of the Mysore plateau draining into the Cauvery has been noticed above; immediately below the gháts lie the inhabited portions of Bhaváni and Satyamangalam; on the extreme west are Coimbatore under the shadow of the Nilgiris and Velliyangiris, and Polláchi at the foot of the Ánaimalais; Udamalpet, also at the foot of the same hills, is to the east of Polláchi, with Dhárápuram as its eastern neighbour. On the banks of the Cauvery lie Karúr on the extreme south-east, and Erode in the east, while Palladam occupies the centre of the district.

The following table shows the divisions; the full areas are entered :

Former taluks.	Present taluks.	Area in square miles.	Towns.	Inhabited villages.	Remarks.
Audiyúr*	Bhaváni	722	1	61	* Name changed in 1860.
Coimbatore †	Coimbatore ..	804	1	261	† Amalgamated in 1861.
Demaikankottal					
Dhárápuram ‡	Dhárápuram ..	835	1	81	‡ Amalgamated in 1860.
Kányam					
Erode †	Erode	600	1	193	
Perundurai ..					
Karúr	Karúr	612	2	94	
Kollegál	Kollegál	1,052	1	121	
Palladam † ..	Palladam ..	739	..	194	
Cheyúr					
Polláchi	Polláchi	716	1	160	
Satyamangalam ..	Satyamangalam ..	1,174	1	184	
Chakragiri ..	Udamalpet ..	583	1	88	
Total	10	7,841	10	1,447	

CLIMATE AND METEOROLOGY.—Coimbatore being to some extent an upland district, is in many parts one of the pleasantest in the presidency. The taluk of Kollegál, belonging to the Mysore plateau, shares in the climate of that tableland, while its proximity to the Western Gháts, and its numerous hills and forests, give it a fairly abundant rainfall, especially during the south-west monsoon. The district proper lying south of the gháts is very dry, some taluks averaging only about eighteen inches per annum. It is comparatively cool, except along the valley of the Cauvery, which the table on page 2 shows to be, near Erode, a considerable depression. January and February are pleasant months

everywhere, but the mornings of January are frequently misty and chilly—north-east and east winds prevail with occasional breezes from the south-east; at this time colds, aguish fevers and cholera prevail. Towards the end of February the climate becomes close and sultry, and March is usually very oppressive, especially along the Cauvery. During these months rain is rare and slight (see the tables), and tents may be pitched almost anywhere without precaution against flooding. The wind veers to the south-east and south with oppressive calms; the sky is almost cloudless, and humidity is at its minimum. In April the weather gets hotter, the sun being vertical about the 18th, and the few thunder showers have no effect in mitigating the oppressiveness, but the reverse. In May the thermometer continues to rise; thunder showers (kár rains) are more frequent than in April, and permit a little cultivation, or at all events ploughing of the soil. Towards the end of the month, however, the wind, which has for some time been in the south and south-west, develops into the south-west monsoon, which brings instant relief in the matter of temperature to the greater part of the district. At this time and through June, July, and August, the effects of the Pálghát gap are conspicuous; through this funnel-shaped opening of some sixteen miles broad, the cool south-west wind rushes with great violence, its course being clearly visible from Coimbatore by a column of clouds and vapour. The cooling effect of this wind for many miles is very great (see Appendix), but it has its drawbacks; its violence is such as to overturn laden carts, and entirely to prevent the pitching of tents in the tract opposite the gap: another drawback is in its tendency, especially in the evening, to cause sudden and dangerous chills if the body is incautiously exposed without woollen protection. The native belief is that this wind is innocuous, but to Europeans, though pleasant, it has been a frequent source of serious chills. Its violence and its cooling effect are largely spent by the time it reaches the east of the district, where it is stifful, hot and dusty, so that June and July in Erode and Karúr are not pleasant months. The rainfall of the south-west monsoon is irregular in the extreme, as the masses of clouds are intercepted by the hills which border the district on the south-west, west and north-west. No dependence can be placed upon it in June, while in July and August drougths most depressing to the ryots are of frequent occurrence. Polláchi taluk being opposite to the gap, is an exception, especially in the west; during June, July, and August the weather there is cool, damp, and showery, so that the ryots habitually get two crop-seasons on dry lands. By the end of August the south-west monsoon has moderated, and September, between the monsoons, is usually oppressive, with slight and variable winds and scanty rainfall; this is a critical time for all cultivation. In October the north-east monsoon sets in, frequently in the early part of the month, long before the official time, but the heaviest rains are usually in the end of October and throughout November; this is practically the only cloudy month of the year for the parts other than that near the gap. Rain is slight in

December and is rare after the 20th as noted in the proverb "No rain after Karthigai (November-December) ; no alms-giving after Karnan." At this time the weather is chilly and raw, and especially trying to native constitutions; this is the recognised season in the district for ordinary fevers, colds, and cholera. Finally it is to be noted that the climate is extremely variable, and that one year seldom resembles another.

Roughly speaking it may be said that the average district rainfall in the plains, exclusive of Kollegal, is about 24 inches, of which 5 fall in April and May (kár rains), 8 in the south-west monsoon from June to September, and 11 in the north-east monsoon from October to March, of which, however, the January to March showers, measuring about 1 inch, are agriculturally useless except at the beginning of January. The kár and north-east rains are usually a good deal in excess one year and below the average in the next year. The maximum recorded district average since 1866 is 33·16 inches in 1880, and the minimum 17·48 inches in 1876; 1874-75 may be considered as a year in which the quantity and distribution were fairly good, viz. :—

Kár, 4·26.		South-west monsoon, 9·10					North-east monsoon, 10·88.					Total.
April.	May.	June.	July.	August.	Septem-ber.	October.	Novem-ber.	December.	January.	February.	March.	
1·47	2·79	1·76	2·31	2·06	2·97	4·94	4·41	0·77	0·09	..	0·67	24·24

The kár rains were rather light and those of December somewhat deficient; otherwise, considering district expectations, there is little to complain of either as regards quantity or distribution.

The next table averages the district rainfall from 1866—1883 at from ten to fifteen stations :—

Rainfall.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Whole year.
1866—1883 ..	·21	·22	·42	1·55	3·02	1·66	1·84	2·40	2·58	5·74	3·76	1·03	24·99

Omitting the Kollegal taluk, the average for the district will be 23·96 for the same period. Compared with the surrounding districts for nine years (1871-79), the figures are as follows :—

	INCHES.		
Coimbatore (inclusive of Kollegal; see Madras Administration Report, 1882-83)	26·03
Madura	27·53

	INCHES					
Salem	36.42
Trichinopoly..	34.78
Malabar	117.52

The Madras town average for the same period is about 56 inches, and the presidency average, exclusive of Coimbatore, the West Coast and Nilgiris, 37.8 inches. Coimbatore had for the above period the lowest rainfall of any district, the next lowest being Tinnevely with 26.57 inches. During that period rain fell on an average on 49 days per year, or about the same as in Bellary, Kurnool and Cuddapah. Many of the falls, however, must have been mere showers or drizzles of no value whatever in this tropical and dry district.

A mere table of rainfall is, however, misleading; the intervals between the falls and the amount of each fall must be known; locality, soil and crops must be considered for a complete agricultural diagnosis in any given year, and, speaking generally, a monthly table for a whole district is useless; the circumstances of each taluk differ, and a rainfall table must therefore be at least by taluks, and for 10 or 15 day periods. The matter is of such importance that it has been treated at length in the Appendix, where will be found various meteorological tables and a description of the seasons annually, drawn from the reports of the Collectors. In considering the meteorological tables (other than those of rainfall) drawn from the administration reports, the position of the meteorological station which is at Coimbatore, close to the Pulghat gap and therefore under the influence of the south-west monsoon, is to be remembered; both the temperature, humidity, and the direction of the wind are modified by this circumstance, so that the tables are not applicable to the whole district except with qualification.

Buchanan mentions six seasons according to his informants at Bhavani, viz., Vasanta, Grishma, Varsha, Sarat, Hemanta, and Sayshu Ritu; these each consist of two months, beginning with the Tamil month of Chittri (April-May). They correspond to a great extent with the above description, the first being the kâr rains, the second the rains of the early south-west monsoon, usually light on the east of the district, the third is the latter part of the same monsoon from August to September, the fourth is the early north-east monsoon which brings the heavy rains, the fifth the dewy cold weather, the sixth the rainless hot weather of February and March.

There are absolutely no data for asserting that any change in the climate, seasons or rainfall, whether for the better or for the worse, has taken place since the beginning of the century. Ryots' statements, like those of agriculturists generally, have always a pessimistic tendency; and as Coimbatore rustics are very inaccurate, and of very limited general capacity, their memories and statements can in no way be depended on. The reports of Collectors made every year and sometimes more often, show that from the beginning of the century the

seasons have been extremely variable, and that the continual complaint has been that of scanty, short, and partial rainfall, especially of the kár and north-east seasons; details will be found in the Appendix. Very variable and partial kár rains, late and partial south-west monsoons, and very deficient north-east monsoons with occasional excessive falls, appear to have been as common in the first as in the second half of the century. Writing in 1865 the Collector tabulated the previous 62 years as having been 2 good, 11 fair, 40 unfavorable, and 9 really bad. In 1857 Mr. E. B. Thomas stated that the maximum fall for five years had been 18 inches, and hoped in future for "plentiful years, such as we formerly used often to have, 20 or 25 inches." In 1828 Mr. Sullivan spoke of the district as one "where a failure of the rains is a misfortune of frequent occurrence."

FAMINES AND SEASONAL CALAMITIES.—Mr. Wedderburn's opinion, written before the great famine of 1877-78, was that the district was one of exceptional dryness; "the rainfall scanty and ill-distributed; raging winds blow for half the year; a full crop is, I am convinced, the exception,* and half or quarter the average." Every officer who has served in the district for a few years will corroborate this opinion, which was formed after seven years' experience as Collector. With seasons producing such crops, and a soil that without irrigation is singularly infertile, it is not to be wondered at if, in times of drought, very great difficulty has been felt by the people, and it is probably due (1) to the wells, (2) to the area of cultivation as compared with population, (3) to reserves enforced by want of communications, that several scarcities were prevented from becoming disastrous famines. And now that population has so greatly advanced as to compel the cultivation of myriads of acres which by themselves are incapable of maintaining the cultivators, it is not surprising that seasons such as those of 1876-77 should result in almost unparalleled disaster. As will be seen in the Appendix, not less than two-thirds of the seasons since 1800 have been unpropitious and many almost calamitous. In some of these the south-west monsoon, which never altogether fails, was scanty and partial, but in most of them it was the north-east monsoon that failed. In many cases the droughts and scarcities were exacerbated by the consecutive occurrence of bad seasons, even for eleven years. Some of these bad years were actual famines; 1804-5 and 1806-7 were so bad that Government addressed the Collector and gave him enlarged powers; 1810-11 were years not only of scarcity but of desolating disease; 1833 was a famine (Guntúr famine), which in some parts of the presidency was calamitous; 1836-37 was the most unfavorable year since the district came under the British, and closed a series of twelve bad seasons, continuous but for 1835-36, which was a very favorable year; 1857 closed a series of five very dry and unfavorable years; 1861 and 1866

* On dry lands.

were also years of partial famine in the district (see Appendix for details) ; 1875-76 was a year of scanty rainfall, but in 1876, while the south-west monsoon was very scanty, the north-east (September to December 1876) completely failed, resulting in the almost total failure of all crops except those irrigated by wells or river channels; the kâr rains of the hot weather of 1877 were very scanty and useless, while the south-west monsoon until September 1877 was almost a total failure and much of the country resembled a desert. The north-east monsoon followed with violence, and, though permitting cultivation, ruined a good deal of the kambu by its profuseness, while it caused much sickness and death amongst constitutions enfeebled by want and privation. Briefly, after only a two-thirds crop in 1875, the land yielded over a vast area practically no crop during the cultivation season of 1876, while that of 1877 was so late that when rain fell from September onwards, the crops were in flower and ear in the heaviest part of an exceptionally heavy monsoon, so that much was lost and damaged. The result in sickness and death was too fearful to dwell upon.

The population had not suffered for many years from the checks of war, serious disease or actual famine, while an abnormal rate of reproduction was induced by the high prices of produce, which favored the ryots and their laborers who were paid in grain, while the railways took away their surplus grain stocks and brought them cash. The result was that the cultivation of unprofitable areas was forced upon the rapidly increasing population, and the poorer strata, partly day laborers, partly petty ryots, increased as though scarcity were unknown, eking out the produce of these poor lands by daily labor; such lands in the best years would give but a scanty return since their pauper cultivators had no capital to invest, while in bad years the wretchedness of the cultivation resulted in total failure. Hence upon the occurrence of a rain failure, not apparently unprecedented, but unprecedented in the then state of population and probably short stocks of grain, myriads of acres of poor lands and much of the other lands gave little or no crop, and lakhs of the poor were at once reduced to the starvation point. At first they managed to subsist by private charity, by the stores of grain in possession of their richer employers, and by petty labor; but as the intensity of the famine deepened, grain stores failed and prices rose; their friends and co-ryots or employers could no longer help them, and early in 1877 the famine developed with alarming rapidity. The Collector (Mr. Wedderburn) had from December prepared for famine, and relief works and gratuitous relief were started as required. Until October 1877 all relief was under the civil department, but from that date works were handed over to the Public Works Department. The works undertaken were famine roads, usually the widening and straightening of village lanes and making them into regular roads, deepening of tanks, removal of prickly pear to a small extent, clearance of irrigation channels, and so forth. Weavers were

aided by purchasing their goods to some extent. Gratuitous relief took the form of money doles and of cooked food, and from September 1877 the plan of closed camps was strictly enforced. From this date the improvement of the season led to the gradual decrease of relief, and though the first half of 1878 was a very trying time, by far the worst pinch of the famine was over with September 1877. The sequelæ of the famine had however to be faced and the camps became hospitals; cholera slew its thousands, dysentery, famine fever, and blood depravation their tens of thousands, and not until the end of 1878 was the famine fairly over. One more plague appeared in the shape of swarms of locusts, which, however, were not so destructive as in other districts.

The following table gives some particulars:—

The price of food is not, at first, precisely a gauge of actual, though a very good one of prospective, famine; to a great extent it means dread of the future, economy by house-holders, and storage by dealers. Many agricultural laborers were retained by their regular employers on lessened grain wages in hopes that the future might be less gloomy than the anticipation. But when the hot weather rains proved partial and useless, and finally the south-west monsoon of 1877 practically failed simultaneously with the general exhaustion among poorer ryots of stored grain and ordinary wealth, then the real pinch of true famine came, and laborers, petty ryots, and artisans flocked to the relief centres. The figures given above show a moderate percentage up to June 1877, especially on gratuitous relief; it was only after that date that distress became overwhelming. Considering that 1875 was a poor year, in which the outturn was estimated at about two-thirds of the average, and considering that while the south-west monsoon of 1876-77 was scanty, the north-east monsoon was an entire failure, so that the crops did not give above a quarter of an average yield, and the south-west monsoon crop of 1877 also failed in that there was little rain till September, the statistics of the famine, coupled with the opinions of the most experienced of the Coimbatore officers and with the facts of previous years, seem to point to the following amongst other lessons for the district: (1) that in Coimbatore two successive bad years, or one entire and absolute failure, will produce partial famine; (2) that such famine is not intense unless one or other, especially the second, of the years has failed to yield more than quarter of the average; (3) that a failure to the extent of not more than one-third of the crop, even in two successive years, will not produce famine calling for special Government aid in the shape of relief, though it will produce scarcity and poverty, and probably increase the death-rate and liability to disease; (4) that even in years such as those of the famine, when a three-quarter failure followed a one-third failure, there is no serious pinch at first such as cannot be combated with fair success if a scheme of operations and proper works are ready; the stock of grain in hand economized, as it will be by fear of the future and by high prices, and eked out by various expedients, will suffice for some months, so that schemes may be properly organized to follow those undertaken as preliminaries; (5) that a favorable season immediately following the second bad season will extinguish the famine proper; (6) that even in a famine which is the result of seasons such as those of 1876-78, and of population so numerous, the extreme number likely to require State aid will not be over ten to twelve per cent. at the worst period.

The wells of Coimbatore alone render possible these somewhat favorable inferences, which apply to a density of population between 1,600,000 and 1,800,000. The outturn alluded to is chiefly that of dry lands, since most of the wet and garden lands gave their usual crops throughout the famine, only tank lands, channel-tail lands, and a

moderate proportion of wells failing their owners, either by failure of the springs or by drifts of blown sand which choked them. A very large proportion of the food crops are grown under wells, but for which the ruin would have been far greater.

The diminution of the population causes less fear of the effects of any similar crop failure for another few years, but, as pointed out (*sub* sec. "Economical condition"), population will approach its 1876 density by 1892. The small amount of village relief as compared with the numbers in open camps or relief houses up to October 1877 is a curious feature of the Coimbatore famine. It is also to be noted that (*teste* Mr. Wedderburn) but few regular ryots came upon relief; it was the poorer strata, such as laborer-cultivators and the classes of miscellaneous occupation. The prices of food were as follow; they are compared with the average prices of the preceding five years:—

Grain.	Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Second-sort rice.	1872-76.	15.64	14.29	15.36	14.46	14.45	15.94	18.79	15.24	15.23	13.07	13.15	12.98
	1877	7.67	7.96	7.96	8.22	7.89	7.54	8.17	6.23	6.23	7.04	8.92	9.11
	1878	9.73	8.67	8.85	8.04	8.48	8.61	7.74	8.27	8.10	9.78	10.91	10.04
Kambur.	1872-76.	20.94	20.71	20.05	20.60	20.84	20.22	20.90	20.12	20.81	20.85	20.12	20.50
	1877	11.20	10.96	10.73	10.20	9.38	8.81	8.98	8.54	7.47	10.23	12.79	10.72
	1878	21.20	20.04	17.88	16.07	15.40	12.03	12.65	12.47	10.90	20.58	24.22	21.04
Oholam.	1872-76.	21.10	24.98	23.01	24.01	20.84	22.88	22.15	22.05	22.54	21.77	21.45	21.01
	1877	9.90	10.31	10.43	9.00	9.07	8.60	6.50	7.65	7.50	10.90	17.11	11.10
	1878	15.22	14.45	12.51	11.30	11.40	10.21	10.20	11.71	12.10	15.25	16.27	17.61
Ragi.	1872-76.	27.10	31.21	30.80	30.70	29.22	28.65	29.00	27.10	27.30	26.90	27.10	27.12
	1877	10.10	10.31	10.35	9.34	8.54	8.00	8.70	8.00	7.70	11.70	12.02	14.10
	1878	15.00	14.01	12.22	12.24	12.00	10.71	10.94	12.10	12.40	12.64	20.54	20.02

The net results of the famine in actual mortality are as follow:—

(1) By decrease found in 1881 below census of 1871.. .. .	105,584
(2) By increment at 7.6 per mille per annum from November 1871 to November 1876..	67,004
(3) By probable increment for two years (1879 and 1880)	24,600
Total ..	197,188

To consider the results in another way. But for the famine the population estimated by the normal increase of 7.6 per cent. in ten years should in 1881 have been 1,897,297, or 239,007 more than were actually found. The difference in the two estimates is that the latter takes into consideration potential births among a steadily increasing population; the former shows the cost to the country in actual deaths, the latter its cost in actual and potential population.

The above is the least that can be put down to the famine; item number 2 should probably be larger, as reproduction was, it is believed, abnormally active, and Dr. Cornish's coefficient of increase is fifteen per

mille per annum. The census of 1881 was taken in February 1881, and the increase of the years 1879 and 1880 must therefore be added as in item 3. To this mortality must be added the unrecorded and unspeakable catalogue of miseries and constitutional wreckage which only those who have witnessed famine with its concomitants and sequelæ can imagine. It is to be added as the one bright feature of the famine, that although there is an ordinary Tamil word for famine (*panjam*), the late calamity is universally spoken of and known by the people in this and other districts by the English word "*relief*."

CHAPTER II.

GEOLOGY, ZOOLOGY, AND BOTANY.

Geology.—General Features.—Mineralogy and Practical Geology.—Soils. Zoology.—Mammalia.—Quadrupeds.—Edentata.—Chiroptera.—Insectivora.—Carnivora.—Viverride.—Canide.—Rodentia.—Muride.—Hystrioides.—Leporida.—Pachydermata.—Ruminantia.—Cervide.—Antilopina.—Caprina.—Birds.—Fishes. Botany.—Trees.—Grasses.—Fibres.—Resins and Gums.—Oils.—Dyes and Colours.—Tans.

Nothing beyond a few scattered remarks is known regarding the district, which has not been geologically surveyed; it is probably not of great interest in practical geology, since it possesses but a thin surface of soil, often but a few inches deep, immediately resting on gneissic rocks, either massive or more or less disintegrated. The following note has been kindly contributed by R. B. Foote, Esq., F.R.S., of the Geological Survey:—

"But very little of the district is known to the officers of the Geological Survey of India, the only part of it which was actually surveyed being the small corner of Karūr taluk lying eastward of the town of Karūr, which is included within the limits of sheet 79 of the Indian Atlas. Besides this only a few traverses of the district were made, but not with geological objects in view. They covered the ground between Karūr and Mottupālaiyam, between the latter place and Bhavāni, also between Mottupālaiyam and Coimbatore itself, and from Coimbatore to the Annimalai mountains. In addition to these are the two lines of railway sections from Erode to Pālgāt and from Erode to Karūr.

"All the rocks cursorily observed along these several lines, the alluvial and a few subaerial formations excepted, belong to the great gneissic series, the bottom rocks in the Indian rock series on which all other younger rock series were deposited. As a rule the schistose, micaceous, and hornblende varieties of gneiss predominate greatly, but bands of massive granitoid varieties also occur, as near Karūr and in the mountains north of the Pālgāt gap.

"The crystalline limestone beds occurring in the gneiss at Madukarai, first noticed (I believe) and described in the Madras Literary Journal by Surgeon-General Cornish when Zillah Surgeon of Coimbatore, are deserving of more practical attention than they have yet received.

"The aquamarine diggings at Kāngyam in some member of the gneissic series were first noticed by the late Captain Newbold, F.R.S., and *facile princeps* among the earlier geologists who examined the Peninsula of India. Reference to them will be found in his notes.

"Just north of Karūr occur sundry granite veins traversing the gneiss; these are the westernmost representatives of a great band of granite veins making a very conspicuous feature on the left (northern) bank of the Cauvery from near Irungalūr mission station, twelve miles north-north-east

of Trichinopoly, westward up to and a little beyond the junction of the Amarāvati with the Cauvery. The granite is highly felspathic and of pink color in general.

"An interesting example of a recent formation, geologically speaking, occurs at Bhavāni, near the junction of the river of that name with the Cauvery, where there is a conglomerate of kankar (tufaceous limestone) inclosing pebbles and huge rounded boulders of quartz and gneiss. This conglomerate, which in many places is five feet and more in thickness, lies in a bend of the generally dry river bed above the bridge. To the south of Karūr *quasi* quays of kankar breccia or conglomerate shut in the Amarāvati river on either side. In parts of this formation all the included fragments are perfectly angular, thus forming a true 'breccia.'

"The alluvium of the Cauvery and of the Amarāvati is mostly sandy and offers no special points of interest. Magnetic iron ore of high quality is reported to occur in Kollegal taluk, but this fact rests on hearsay. It is, however, an extremely probable thing."

The following occasional note by Mr. H. T. Blanford, in the *Madras Journal of Literature and Science* (Vol. III, N.S., 1858), may be quoted with advantage:—

"The whole surface of the district of Coimbatore is composed of a vast spread of schistose or foliated rocks, such as gneiss, hornblende-schist, mica-schist, &c., a class of rocks termed metamorphic by Sir O. Lyell. Quartz, felspar, hornblende and garnet are the chief constituents of these rocks in this district. Mica, which is one of the constituents of true gneiss, is only of exceptional occurrence in the district in question.

"The formation, whenever apparent, conforms to a general strike in the direction east-north-east and west-south-west in the neighbourhood of Coimbatore; in other parts of the district it varies considerably, and towards Bhavāni it has a north-west strike.¹ Granite² veins of small size may be occasionally seen cutting through the foliated rocks which form the surface of the low country."

MINERALOGY AND PRACTICAL GEOLOGY.—Little is to be found in the scattered notices of Buchanan, Newbold, &c., who have passed through the district, or in the reports of the various district officers, none of whom has described the district geologically. Buchanan has noticed the outcrop of the veins of white quartz, sometimes almost pure, sometimes stained with iron, that are to be found in so many places, especially near Pádur, Karūr, Sivanmalai and elsewhere. The gneiss which is the foundation of the district is of several characters; in some places hornblende is the prevalent constituent, in others felspar; sometimes it is regular, large-grained, granitic gneiss, in other cases it is irregular, containing compact felspar in large crystalline forms. The tufaceous limestone, evidently the result of the aqueous removal of the lime of the

¹ Buchanan notes that the strata of the hills north of Bhavāni run north and south and are vertical, and that near Bhavāni they run north-west and south-east with a sharp dip to the north. The foliation is occasionally wonderfully distorted and wavy in appearance like the figures in watered silk.—N.

² Quartz veins are more common.—N.

hornblende, which it will be noticed (*vide supra*) replaces mica in the Coimbatore gneiss, is a remarkable geological feature; it appears to have overflowed and penetrated the interstices of the more primitive formations, appearing either as a nodular gravel (kankar), or, as especially in South Karúr and Dhárápuram, in a more agglomerated state (odeikal), when it forms continuous sheets only broken upon the surface by the efforts of the ryot. From Dhárápuram towards Udamaipet on the old Polláchi road, and on the road to Palladam, it is very noteworthy, the strata being often many feet thick, as may be seen in the wells. The stratum frequently involves angular pieces of quartz and other rocks, which it apparently collected as it flowed along; in some places it assumes the appearance of béton of extreme hardness; still further westward the limestone disappears from the surface, being covered by the black cotton soil of Udamaipet and Palladam, to which it forms a subsoil.

Generally speaking, the whole district is calcareous; many parts highly so, owing to the fortunate fact of the hornblendic character of the gneiss. Crystalline limestone of fine quality is found to the south and south-east of Karúr, which Mr. Foote considers will some day furnish large supplies of very handsome marbles of various colors. The Madukarni bed, which crops out on the ridge seven miles south-west of Coimbatore, close to the road leading to Pálghát, is of great value and very accessible; the new English church at Coimbatore has been built entirely of this limestone, which is chiefly whitish drab, pink, and slate grey; the first sort furnishes good stone, of which the church walls are built, while the two latter, as exemplified in the font and pillars, take a fine marble polish. The stone has not been otherwise utilised, but would work well into various ornamental forms and articles.

Other building stones are the ordinary gneiss rocks which flake under heat or wedges, into slabs of varying thickness; a particularly good quality is found near Úttukuli railway station, and was used for the piers of the Cauvery railway bridge. Ordinary millstones are made of this rock; cellular chert was exhibited in 1857, but the locality is not specified.

Iron is a district product, at present of small value owing to the price of fuel. It is collected in the form of black sand from the surface streams; probably the hills contain it in large quantities as ore, but their sources have not been explored. Buchanan noticed iron ore in the bed of a torrent near Minkarni, at the foot of the Ánaimalais, in lumps as large as pens, and evidently derived from the decaying foliated rocks of the neighbourhood. The Salem Committee of the Madras Exhibition of 1851 reported on two kinds of iron produced from Coimbatore ores, and the Catalogue of the 1857 Exhibition mentions both iron stone and sand of rich quality from several localities in all the taluka. The remarks of the jury on the ores are as follow: "The iron ores sent by the Coimbatore Local Committee are of very fine quality, being parti-

cularly rich in the metal, and the most highly magnetic in the exhibition." For manufacture and produce, see "Industries."

Manganese was detected in the black sand from Virupaneli in Coimbatore taluk. Quartz of very fine quality is found in many places; it can be procured in quantity quite free from iron and adapted for pottery and glass making. Crystals of quartz are found in considerable numbers and of good size and form; in the north of the Dhārāpuram taluk they have been found fifteen inches long and eighteen inches round. These crystals are sometimes colored, apparently by manganese, of deep amethyst, and when cut thick are of a rich purple or violet. These amethysts are found chiefly near Kāngyam in the village of Pattālai, where is also the famous aquamarine (beryl) mine, usually but wrongly stated to be in Padiyūr.

In Volume IV of the Indian Antiquary, Mr. M. J. Walhouse states that the aquamarine well is dug in a dyke of crystalline porphyritic granite traversing the gneiss; the dyke abounds with masses of quartz with large crystals of quartz, cleveandite (albite), felspar, and garnet. The aquamarines are found as six-sided prisms in cavities of the cleveandite. From June 1819 to June 1820 Mr. Heath, late of the Civil Service, worked the mine on contract with Government, and obtained 2,196 stones weighing 22 lb., valued at £1,210. There are signs of old workings in the neighbourhood, and cleveandite, which is the matrix of the gem, occurs in the rocks for many miles round.

Mr. Walhouse suggests that this mine is the source of the gems which for thousands of years have been supplied to the world; they are of the peculiar translucent sea-water color which Pliny mentions as the test of the true beryl; India was the only source known to the ancients (Pliny), and this mine is the only known source in India. Moreover, it is in this part of the country that Roman coins have been discovered in quantity.

It is stated that green gems (paehohai kal = aquamarines?) were also found in the hills north-west of Coimbatore, apparently at the foot of Lambton's Peak. Corundum of fine quality is also found in Pattālai, and is largely exported to Bombay and elsewhere. Gopichetti-pālaiyam is also a source of corundum; a specimen is in the School of Arts.

Felspar of the finest quality is abundant; in the Erode and Karūr taluks it is especially noticeable, the road metal in the west of Erode being largely pink felspar. Both the translucent pink and opaque white varieties are found; the former absolutely free from iron, the latter slightly ferruginous on the surface from the red soil in which it is found. Both varieties are admirably adapted for pottery, a strong heat fusing them into a beautiful white enamel. Anorthite is found near Kāngyam.

Potstone (balapam) of good quality is found (Buchanan) near Doda-rapālaiyam, about a mile south of the Bhavāni on the way from Satya-mangalam to Modakanthurai. It was then worked for vessels, but has

now, it is believed, been abandoned, though vessels were shown at the Exhibition of 1857.

Kal-nâr ("stone-fibre") is occasionally found, as lately near Perundurai; it appears to be asbestos, or, more probably, chrysotile, and not fibrous gypsum, which is also called kal-nâr. Saltpetre is obtained by lixiviation, the soil being in many places strongly impregnated with potassic and sodic salts. A bye-product of the manufacture is a coarse sodic chloride (earth salt), which is somewhat bitter and laxative, apparently by an admixture of magnesian sulphate.

In the catalogue of the Madras Exhibition of 1857 earth-oil from Coimbatore is mentioned as an exhibit; this appears to be an error.

SOILS.—The nature of the soils may be judged from the geological character of the district. They are primarily derived from the disintegration of the gneiss, both felspathic and hornblendic, which underlies the surface, and slopes gradually up to the surrounding hills. The quartz of the gneiss has broken down into stony gravel and sand; the felspar has partly disintegrated into clay and sand, while its potash has washed out, and the hornblende has yielded up its silica, lime, magnesia, and iron. Soda has presumably been derived from the water which effected these changes, as the felspar (orthoclase) is potassic. The black cotton soil appears to have had a hornblendic origin, but to have been locally altered by vegetable organic matter; its constituents and "conversion into a black glass by heat" seem to indicate "that it has originated from the disintegration of trap rocks," that is, the hornblende or angite which are so abundant in the vicinity, while its carbonaceous character and hygroscopic power indicate the addition of vegetable matter. It has been remarked that it is very similar to the black soil found in the Ânaimalai forests. The absence of soda seems to show that, if an aqueous deposit, as is almost certain, it is the sediment of a shallow freshwater lake abounding in vegetable matter. It is said to contain no potash or soda in any form; this is hardly credible and throws doubt on the analysis, which is also doubtful as showing only 1 per cent. of ferric oxide and only 4·3 per cent. of water and vegetable matter. The analysis was of cotton soil from another district, which may have been of very different composition to the Coimbatore soil.

The native division of soils is appropriate, viz.:—

- | | | |
|---------------------------|-----|---|
| 1. Karcisal (karum bhumi, | | |
| iram bhumi) ... | ... | Black loam (regur, cotton soil). |
| 2. Sen-karcisal ... | ... | Reddish black loam. |
| 3. Padugai ... | ... | Alluvial loam (river-irrigated lands). |
| 4. Vellai ... | ... | Grey or ash-colored soil. |
| 5. Seval ... | ... | Red loam. |
| 6. Mannal ... | ... | Red sand. |
| 7. Saralai ... | ... | Gravel (soil only partially decomposed, the quartz and felspar appearing in fragments). |

8. Odei Agglomerated limestone soil.
 9. Sukkán Calcareous soils.
 10. Kallar Alkaline soapy soil.

No. 3 is merely the ordinary red loam or sand modified by cultivation and the admixture of much vegetable matter. No. 10 is a peculiar soil, strongly alkaline, very retentive of water in a free state, and requiring drainage before it can be cultivated. The above division is that recognised by the ryots and adopted for the old settlement, but in the new settlement of 1879-1882 all soils of this district have, for settlement purposes, been classed under black clay, loam and sand, and red loam and sand, each class being subdivided into five heads according to its capabilities.

The table below gives the occupied area and percentage of each class and sort of soil for nine taluks. Class 3 is the regur or black cotton soil, classes 4, 5, and 7 are the padugai or irrigated lands generally, embracing also, especially under class 7, the low-lying lands and fertile bottoms which have received the wash from the uplands, and by reason both of position and soil are largely garden lands; class 8 forms the ordinary uplands and represents the bulk of the cultivable area.

Soils.					Occupied and surveyed areas.			
					Area in acres.			Percentage to total area.
					Wet.	Dry.	Total.	
Black.	{ Clay	..	..	..	1,094	67,342	68,336	3.48
	{ Loam	..	..	..	27,808	86,644	124,452	6.33
	{ Sand	..	..	..	3,024	39,891	42,915	2.18
Red	{ Loam	..	..	..	40,237	409,117	449,354	22.87
	{ Sand	..	..	..	1,788	1,277,138	1,278,926	65.14
Total ..					73,951	1,890,032	1,963,983	100.00

The following table shows by taluks the area of occupied assessed lands as classed at the recent settlement; percentage No. 1 is the ratio to the total occupied area of the class in the district; No. 2 gives the ratio to the total occupied area of the taluk. This and the table above exclude Dhárápúram (889,436 acres), the details for which are not procurable, except that 77 per cent. is of the poorer red loams and red sands, chiefly the latter in the form of gravel. The district totals are therefore for the other nine taluks only. The figures are for occupied Government lands only, except that 18,355 unoccupied acres in Palladam are included, details being unknown. Except in the forest taluks of Bhaváni, Kollegal and Satyamangalam, the unoccupied areas of cultivable land are small. Inam areas are excluded, aggregating 324,889 acres for the district.

Taluka.													
Soil.	Class.	Bhavani.			Coimbatore.			Erode.			Karfr.		
		1.		Per cent.	1.		Per cent.	1.		Per cent.	1.		Per cent.
		Acrea.	2.		Acrea.	2.		Acrea.	2.		Acrea.	2.	
Black	Clay	..	..	..	20,074	29.37	8.06	..	..	..	177	0.25	0.07
	Loam	..	..	..	20,948	21.05	10.86	..	..	..	934	0.76	0.35
	Sand	..	..	..	497	1.15	20	..	..	..	..	..	..
	Loam	..	..	..	79,828	17.76	32.12	..	..	..	28,908	0.43	10.88
Red	Clay	..	..	..	121,920	9.47	48.76	..	..	..	210,988	18.45	88.70
	Loam	..	..	..	84.24	..	..	..	..	..	..	..	..
	Sand	..	..	..	..	..	..	..	..	..	..	..	..
	Loam	..	..	..	..	..	..	..	..	..	..	..	..
Total ..		130,951	..	100.0	248,567	..	100.0	302,568	..	100.0	268,007	..	100.0
Taluka—(Continued).													
Soil.	Class.	Palladam.			Pollachi.			Satyamangalam.			Udamalpet.		
		1.		Per cent.	1.		Per cent.	1.		Per cent.	1.		Per cent.
		Acrea.	2.		Acrea.	2.		Acrea.	2.		Acrea.	2.	
Black	Clay	..	..	..	10,762	28.02	6.05	..	..	..	..	..	..
	Loam	..	..	..	33,873	27.22	8.56	..	..	..	..	..	..
	Sand	..	..	..	37,893	89.37	9.59	..	..	..	..	..	..
	Loam	..	..	..	53,094	11.05	13.73	..	..	..	..	..	..
Red	Clay	..	..	..	210,801	19.24	62.87	..	..	..	..	..	..
	Loam	..	..	..	..	..	..	..	..	..	..	..	..
	Sand	..	..	..	..	..	..	..	..	..	..	..	..
	Loam	..	..	..	..	..	..	..	..	..	..	..	..
Total ..		391,135	..	100.0	206,945	..	100.0	189,566	..	100.0	174,490	..	100.0
District Totals (nine talukas).													
		Taluka.			Taluka.			Taluka.			Taluka.		
		1.		Per cent.	1.		Per cent.	1.		Per cent.	1.		Per cent.
		Acrea.	2.		Acrea.	2.		Acrea.	2.		Acrea.	2.	
Black	Clay	..	..	..	..	..	..	..	..	..	..	..	..
	Loam	..	..	..	..	..	..	..	..	..	..	..	..
	Sand	..	..	..	..	..	..	..	..	..	..	..	..
	Loam	..	..	..	..	..	..	..	..	..	..	..	..
Red	Clay	..	..	..	..	..	..	..	..	..	..	..	..
	Loam	..	..	..	..	..	..	..	..	..	..	..	..
	Sand	..	..	..	..	..	..	..	..	..	..	..	..
	Loam	..	..	..	..	..	..	..	..	..	..	..	..
Total ..		1,963,983	..	100.0	1,963,983	..	100.0	1,963,983	..	100.0	1,963,983	..	100.0

The soils are generally of fair composition chemically by reason of the potash, lime and magnesia of the original rocks, but the gravels are insufficiently decomposed; the odee soil is almost pure indurated limestone with a moderate admixture of soil; in vast areas the surface soils are extremely thin, and the sub-soil raw semi-decomposed rock. No examination, physical or analytical, has been made of the soils of the district.

ZOOLOGY.

MAMMALIA.

The hills of the district abound in almost every South-Indian species of the feræ nature. The Ánnimalais take their name from the former abundance of elephants, while the kheddah operations for the supply of elephants were carried on in the forests north of Bhuváni and Satyamangalam. The Felidæ, Cervidæ, and Antilopinæ are strongly represented, except in the slopes bordering the more populated taluks, while the bear and bison (gaur) are found in all the great hill forests. The plains are almost devoid of feræ; occasionally a wolf is seen (as recently near Súlár in Palladam); there are a few antelope near Palladam and Dhárápuram, and hares are fairly abundant. Occasionally a panther finds his way to isolated hills, e.g., Úthiúr in Dhárápuram, and commits considerable ravages amongst the young cattle, sheep, and dogs, till killed or driven off.

The following list of mammalia is taken, nearly *verbatim*, from a sketch written in 1875 by the Rev. F. W. Jackson, entitled "The Mammals of the Coimbatore District, 1875."

QUADRUMANA.—*Genus Presbytis*.—The Coimbatore district is not nearly so well represented by the various monkey families as are the adjoining districts to the north-west and south. I have not to my knowledge seen either *Presbytis entellus* or *Presbytis priamus*. *Presbytis Johnii*, the Malabar langur, is met with; *Presbytis jubatus* is found in considerable numbers on the Nilgiris.

Genus Inuus.—*Inuus silenus* (the lion monkey).

Genus Macacus.—*Macacus radiatus* (the Madras monkey). This is the commonest monkey in the presidency.

EDENTATA.—*Genus Loris*.—*Loris gracilis* (the slender loris). It is a most curious creature, with its long slender limbs and body, its sharp visage and enormous eyes. It has no tail, and its total length is only about 8 inches. Its food in its wild state consists of fruit, insects, eggs, and, it is said, young birds. In confinement it will eat boiled rice, plantains, honey, and, it is said, raw meat.

CHEIROPTERA.—*Genus Pteropus*.—*Pteropus Edwardsii* (the large fox bat), commonly called "the flying fox."

INSECTIVORA.—*Genus Sorex*.—*Sorex coruleus* (the common musk shrew or musk rat of Europeans). This shrew is almost entirely

Insectivorous and feeds greedily on cockroaches. *Sorex niger* (the Nilgiri wood-shrew).

Genus Erinaceus.—*Erinaceus micropus* (the South-Indian hedgehog). I have seen several at Pôdantur, and a lady friend of mine kept two in her store-room for months to kill the cockroaches.

CARNIVORA.—*Genus Ursus*.—*Ursus labiatus* (the Indian black bear). The specific name *labiatus* is given to this bear on account of the size and mobile elasticity of his lips, which he appears to be able to twist in almost every and any direction. He is found throughout the district. His favorite habitats are dens at some elevation on the rocky sides of the wooded hills, and at no great distance from the jungle where his choice kinds of food—termites and the fruit of the *Acacia fistula*—abound. He is a very grotesque beast, and is capable of almost complete domestication. He is nocturnal in his habits, and retires to his den at early dawn. Some men despise him as an animal of sport, and these are they who, sooner or later, get a manling from him. The largest I have seen was one I killed about three years ago, which weighed 200 lb.

Genus Mellivora.—*Mellivora Indica* (the Indian badger).

Genus Martes.—*Martes flavigula*.

Genus Lutra.—*Lutra nair* (the common Indian otter). This otter is found on the Bhavani near Mettupálaiyam, and no doubt in other places most likely on the Cauvery, but I do not think that it is anywhere in the district at all numerous. Jerden gives the length "up to 46 inches, of which the tail is 17, and 3 inches wide at the base." The largest I have seen weighed 25 lb., but I have no doubt larger ones are met with occasionally. *Lutra aurobrunnea* (the small hill otter). This animal is considerably smaller than the preceding, and is found on the Nilgiris.

FELIDÆ.—*Genus Felis*.—Under this heading are comprised (1) *Felis tigris*, (2) *Felis pardus*, (3) *Felis chaus*, (4) *Felis domestica*, (5) *Felis jubata*.

Felis tigris.—The tiger is an inhabitant of all the jungly parts of the district. Of late years, prior to the autumn of 1873, he appears to have increased and multiplied to a most alarming extent in some of the taluks, but more particularly in those bordering on the rivers Moyar and Bhavani. The Satyamangalam taluk has been notorious for several years as the *locale* of man-eating tigers. One of these terrible pests (a tigress) was shot at Kongrapálaiyam, a village eight miles east of Satyamangalam, on the 16th of August 1869, by Major Davies, Superintendent of Police in the Coimbatore district, and another demon of equal atrocity (also a tigress) was destroyed by Captain Caulfeild and myself by strychnine on the 14th of July 1873, a few miles to the north.

It is an error to suppose that all man-eating tigers are mangy, or that they become so in consequence of their having acquired this evil propensity. Both the tigresses here mentioned, as I can testify from personal observation, were in fine condition, and as sleek as a Derby

winner. Mange and want of condition are consequent on age and its concomitant infirmities.

In the autumn of 1873, after our successful employment of strychnine, Captain Caulfeild was appointed tiger-slayer to the presidency by the Madras Government. He at first confined his operations to the Coimbatore collectorate, where (being ably assisted by the Collector, Mr. A. Wedderburn), by means of poison, traps and other devices, he very soon materially thinned the ranks of the "striped" family. In 1874 93 tigers and 32 panthers were destroyed in the district. Only 1 man was killed, and the number of cattle destroyed fell from 2,183 in 1873 to 265 in 1874. These short statistics speak for themselves, and do not require any comment from me.

Mr. Wedderburn has very kindly furnished me with the following interesting particulars on the destruction of tigers, &c. :—

"The destruction of tigers was formerly in this wise. When a cow or ox had been killed, the herdman brought the intelligence; if there were shikarries in the village, they would go out, erect a platform of branches in a tree, or make an ambush of thorns on the ground, near the dead animal, and when the tiger returned about sunset they fired their long match-lock (with a barrel of five or six feet) loaded with a large charge of coarse powder and a bullet or two, and never missed their aim. In this way about twenty tigers were shot annually, but no great impression was made on their numbers, and the amount of cattle destroyed remained very much on an average. Occasionally, by the intervention of the herdman in defence of his cattle, he himself became a victim, and in this way one or two deaths occurred. But in one particular locality, under the hill range behind the town of Satyamangalam, a family apparently of man-eaters appeared. One, after committing great ravages, was shot by Major Davies, Acting Superintendent of Police, in 1869. After an interval of two years another appeared in the same locality, and was the terror of the neighbouring villages for nearly two years. The Magistrate of the district offered first Rs. 100, then Rs. 200, and finally Rs. 500 to any one who would shoot the pest; but it was much too wary to be approached. It carried off its man, partially eating him, and dropped him if pursued; and as the country was so difficult that it could not be beaten, it occurred to the Magistrate to ask permission to place strychnine in the body; but this was not approved of by the Government. Finally, however, this plan was adopted with success, and in July 1873 this scourge of the taluk was put an end to.

"The idea of poisoned baits then occurred as a good plan when the forest could not be beaten. Dr. Shortt, the Superintendent of Vaccination, suggested that the ointment of strychnine might be applied to a live bait, which, on being seized, would cause the tiger's death, but the plan did not succeed; the bait died of the ointment. Captain Caulfeild was appointed by Government for the purpose of destroying tigers. As, however, his operations could only be conducted in one or two places at the same time, and the area of tiger-infested forest extended over some 200 miles, it occurred to the Magistrate of the district to ask Government to allow him to employ the headmen of all the forest villages in poisoning the carcasses of cattle killed by tigers. It was in opposition argued that these village

officers would destroy more lives by poisoning the cattle than the tigers had done, and a letter of warning was addressed to Government by an officer in a high position to that effect, but the Government did not appreciate the risk. So soon as permission was given, the Village Magistrates were supplied with small phials duly sealed, each containing six grains of strychnine, and were directed, so soon as the village herd reported a kill, to repair to the spot before sunset and apply the poison. The result was, that in fifteen months from the time of the plan being sanctioned, poison was applied in seventy cases and thirty tigers were found dead near the baits, the others which had eaten disappeared; occasionally their remains, totally decomposed, were found at considerable distances, showing that though death had not been immediate, the animal had ultimately succumbed to the effects of the poison. Several tiger cubs were taken alive after vain search had been made for the dams which had eaten the bait. But the best proof of the effective remedy which had been applied was in the decrease of losses of cattle—a matter of great importance to the ryot cultivators, who can ill-afford to lose their cattle on which their cultivation so much depends. The losses of cattle fell in the short period of fifteen months from 2,000 to a tenth of that number, and thus from £1,500 to £2,000 value of stock was saved to the people. The Government viewed this success with approbation.

"That with such extensive forests the race of tigers will ever be exterminated cannot be expected, but the number is reduced proportionately with the game on which they used to subsist, while the number of guns now used by the people, who shoot in season and out of season—watching in the hot season by water-holes at which the poor animals of the forest and hills come to slake their thirst, and at salt licks in the rains which are equally attractive—have greatly reduced their numbers. The common food of the forest tiger consists of wild pigs, which are most destructive to cultivation, so that the tiger is not without its use in the animal economy, but it is not interfered with till it turns its attention to the villagers' cattle, and then its first meal frequently proves its last."

Felis pardus (the pard or panther). The panther is much more frequently and most erroneously called the "cheetah." This beautiful and truly graceful beast is found in scrub jungle and among the rocky hills in most places throughout the district. It is for size an extremely powerful animal, and kills cattle and wild pigs. Its activity and agility are little inferior to those of the cheetah or hunting leopard.

Felis domestica (the domestic cat). There are two varieties of domestic cat, if not more, found in the district, viz., the common English cat and the Angora, vulgarly known as the "Persian" cat.

Felis jubata (the cheetah). This animal is only sparsely distributed over a small portion of the district bordering on the river Bhavani, about Vellamundi and Kotamangalam, where it preys on the antelope which abound in the vicinity of those places. Colonel Davies informs me that about four years ago, in looking over some skins of wild animals that had been killed in the district and sent to the Collector's office at Coimbatore, he saw five good skins of the *Felis jubata*, and that his impression at the time was that "they came from the low hills about

Kotamangalam." "I was surprised," he continues, "at finding the leopard's skins amongst the panthers', as I had not heard that *Felis jubata* was found in the district. The skins were in good order, and undoubtedly those of *Felis jubata*."

Mr. Wedderburn also informs me that he has seen skins of the hunting leopard at the cutcherry, and I think he has one in his possession now that was obtained near Bolampatti.

VIVERRIDÆ.—*Genus Hyæna*.—*Hyæna striata* (the hyæna) is not uncommon in the district and among the low hills near Madukarai, a few miles to the west of Pódanúr.

Genus Herpestes.—*Herpestes griseus* (the common mungoose). Found throughout the collectorate, both in jungle and in the open country.

CANIDÆ.—*Genus Canis*.—*Canis pallipes* (commonly called wolf) is occasionally found in Palladam. *Canis aureus* (the jackal). This well-known animal is numerous and ubiquitous. He is a capital scavenger, and one very much needed in most stations and cantonments in India, where, as a rule, the residents, if they happen to have any knowledge of sanitation, which is very seldom the case, grow indolent and careless and let things take their chance. He is hunted with fox hounds, and occasionally gives a capital run. The hill jackal is very much larger than the one inhabiting the plains; perhaps the better climate may be conducive to a larger growth. *Canis familiaris* (the pariah, &c.). The domesticated dog of the district and of the whole of India is the pariah, but in addition to him are the poligar and several breeds of English dogs, e.g., bull-dogs, terriers, spaniels, &c. The pariah is too well known to require much description, as he is one of the objects that first meets the eye on entering a town or village, and is about as common as the *Corvus splendens*. The poligar is a large and powerful dog, something of the greyhound type, and the chief peculiarity about the animal is that it is quite hairless. This dog is not very common, and a well-trained couple would command a good price.

Genus Cuon.—*Cuon rutilus* (the wild dog). This dog is found in the hill forests throughout the district.

Genus Vulpes.—*Vulpes Bengalensis* (the Indian fox).

RODENTIA.—*Genus Sciurus*.—*Sciurus Malabaricus*. This squirrel is plentiful in the hill forests of the district. *Sciurus palmarum* (the common striped squirrel). *Sciurus tristriatus* (the jungle striped squirrel). *Sciurus sublineatus* (the Nilgiri striped squirrel).

Genus Pteromys.—*Pteromys petaurista* (the brown flying squirrel).

MURIDÆ.—Rats and mice.

Genus Nesokia.—*Nesokia Indica* (the Indian mole-rat).

Genus Mus.—*Mus bandicota* (the bandicoot rat). There are other Muridæ to be met with in this district, as *Mus brunneus*, *Mus Nilagircus*, *Mus urbanus* and *crassipes*.

HYSTRICIDÆ.—*Genus Hystrix*.—*Hystrix leucura* (the Indian porcupine).

LEPORIDÆ.—*Genus Lepus*.—*Lepus nigricollis*.

PACHYDERMATA.—*Genus Elephas*.—*Elephas Indicus* (the Indian elephant) exists in considerable numbers in the west, north, and north-eastern portions of the district, and is resident throughout the year. Its most favorite habitats are the hilly regions and dense forests bordering on the Mysore territory. It is to be found at almost all seasons of the year on the hills in the western part of the collectorate, about Dhomblypálaiyam and Bolampatti, as I can testify from personal experience.

It cannot be otherwise than satisfactory* both to economists and naturalists that Government have at length promulgated laws prohibiting the ruthless and indiscriminate slaughter (tending at one time to extermination) of this magnificent beast.

The largest elephant (of which we have any authentic record) ever shot in the Madras Presidency was killed by Sir Victor Brooke in the Coimbatore district, near Hassanúr, in 1863. Height, as measured by Sir Victor and Colonel Douglas Hamilton, from heel of forefoot to highest part of back in a straight line, 11 feet 4 inches. In order to realize the size of this enormous brute it would be as well to measure the height on a wall. The perfect tusk was 8 feet in length and weighed 85 lb.; the other, which had at some previous time been damaged and was diseased, weighed only 53 lb.

Mr. Wedderburn has kindly furnished me with the following particulars of a kheddah for the capture of wild elephants, constructed with the sanction of Government and under his orders:—

"Government had for some years under consideration a Bill for the protection of wild elephants, which, however, unless utilised, are a source of considerable damage to the crops at a particular time of the year, and which are not to be frightened away by guns or fire, but return persistently during the night from their forest retreats. No capture of elephants had taken place in this district for nearly twenty years. The former kheddah was surrounded by cultivated lands, and now open country, and elephants could no longer be driven to ground over which they had formerly roved. It occurred to the Collector that the simple protection of elephants was an incomplete measure, and as the Government Commissariat were short of these valuable carriers of soldiers' tents, &c., and the prices had risen, that an attempt should be made to capture some of the wild herds. Accordingly he submitted a plan, which was sanctioned in the end of 1873, and in August 1874 had the satisfaction to report that a small herd of sixteen had been captured. Six of the best were at once taken by Government for the Commissariat, two died, four small ones, not over four feet high, brought the large sum of Rs. 2,000 at auction, while three good ones were retained, one

* During the first half of the century elephants were a great source of loss to ryots in the taluks bordered by hills; in the earlier part many villages and valuable lands were abandoned in consequence of their ravages, and a large force of poons was employed at great expense and with little result to keep off these marauders, while remissions for destroyed crops were a very considerable item.—N.

of which was suitable for the Forest Department. Many more would have been caught but for a series of mishaps—first, when the decoy elephants had not arrived, a herd of forty went into the kheddah, but could not be meddled with; then after the first capture, the decoys had to take their captives to the Government depôt, and another opportunity was lost; a large capture by Mr. Sanderson in Mysore took the decoys away at another critical time; last of all, when the indefatigable superintendent of the kheddah, not expecting that elephants were in his vicinity, had taken a run from his solitary camp to a town fifty miles off, he had the mortification of learning that another herd had come into the kheddah, but his people had so lost their heads that they did not enclose them.

"Elephants being so scarce and in demand for Government use and for forest work, a large first-class elephant is worth now Rs. 2,000; so that the small establishment now kept up, consisting of a quondam police inspector, one of the best shikarries of the district, on Rs. 300 a month, and a few subordinates (added to the keep of the decoy elephants, which would otherwise be more expensively maintained elsewhere), with ropes, chains, and other plant, constitute the only expense. The routes of the wild elephants having been most accurately ascertained, there is every chance that captures will be from time to time effected and the devastator of the crops converted into a docile servant of Government."⁴

Genus Equus (the horse). The horse of the district is a very poor specimen of the genus. [The only ones of importance are those of Kángyam and the neighbourhood; since the subsidence of the poligars and their hordes of irregulars, and since the substitution of carts for pack horses and bullocks, it is probable that their numbers have decreased. There are no data to show deterioration of quality, and no information can be obtained from the records as to the alleged supply of cavalry horses to Government from Kángyam. The ryots who mentioned this to Mr. Robertson may have referred to some tradition of the times of the Madura or Mysore Government, or to the time when, between 1770 and 1799, every pony and pack-bullock was requisitioned during the marches of the various armies or battalions through this district and its neighbourhood. Some very decent ponies are reared by breeders, such as the Pálaiyakottai pattagar near Kángyam, and prices up to Rs. 150 are obtained; among the Kángyam ponies will be found a breed resulting from a cross with a white Arab stallion in the time of Mr. Drury in 1832. They range from 14½ hands and under. The Pálaiyakottai breeder has made considerable efforts to improve the stock, but much is yet wanted, and Mr. Robertson considers that good horses cannot be bred unless the agricultural practice be improved. Regular breeders, such as the one noted, treat their animals very well, and supply grain and fodder liberally; a better strain is, however, required. Subsequent to the attempt of 1832 a further trial was made between 1870 and 1874, when a pony and an Arab horse were sent to the

⁴ The kheddah establishment was abolished in 1899 as it was found to be costly and unprofitable.—N.

district. The experiment was unsuccessful, neither stallion proving a proper foal-gotter. The subject has again been mooted by the present Collector, Mr. Laman, who has advocated (March 1884) a further experiment; this has recently been sanctioned by Government and two stallions, one Arab and one Persian, are to be supplied, one of them being placed in charge of the Pálaiyakottai pattagar.—N.]

Genus Asinus (the ass). This poor creature is very low in the scale of wretchedness. He is a poor, miserable, deformed animal, and his hideous deformity is the result of neglect, ill-usage, and overloading when young. [An attempt was made by Government between 1880 and 1884 to rear mules, two stallion asses from the Panjáb being sent to the district. The experiment proved a failure, the ryots viewing it with aversion as unnatural, and no one would bring his mare for service. The few operations yielded practically no result, and the stallions have since been removed.—N.]

Genus Sus.—*Sus Indicus*. Under this head may be classed the Indian wild boar and the common domestic black hog.

RUMINANTIA.—CERVIDÆ.—*Genus Rusa*.—*Rusa Aristotelis*, by some called *Cervus hippelaphus* (the sambur). The specific names *Aristotelis* and *hippelaphus* were given under the idea that this stag was "the horse deer of Aristotle." This grand animal, the finest of the deer tribe in Southern India, is found on the slopes of the wooded hills in various parts of the district. The following dimensions are given by Jerdon: "Length 6 to 7 feet, height 13 to 14 hands at the shoulder." Some are stated to be larger than this even. He is the representative in this country of the British red deer *Cervus elaphus*, and the male is the only animal of the deer tribe we have who has any claim to the title of "stag," which he emphatically is.

Genus Axis.—*Axis maculatus* (the spotted deer). This deer is plentiful in the wooded parts of the district in the plains, but not so much so beyond an elevation of 2,500 feet. In the neighbourhood of Hassanúr some years ago it abounded in considerable numbers, but its ranks have been much thinned by natives, who have shot it down mercilessly.

Genus Cervulus.—*Cervulus aureus* (the muntjac deer), commonly called the jungle sheep. There is a ridge down each side of the face, or rather at the corners or angles of the face, in continuation of the bones from which the horns spring, and from this he is sometimes known as the "rib-faced deer." It is also called the "barking-deer" from its call, which is a kind of short bark like that a fox, but much louder, and it may be heard in the jungles the animal frequents both by day and night. It is misnamed in Ceylon "the red hog-deer."

Genus Marmosa.—*Marmosa Indica* (the mouse-deer) is found on the hills of the north of the district.

ANTILOPINÆ.—*Genus Porax*.—*Porax pictus* (the nilgai). The chief part of the district which this animal inhabits is the low scrub jungle about Kottamangalam and Gazalhatti on the Bhaváni and

Moyar rivers, some twenty-five or thirty miles east of Mottupálaiyam. It is not numerous, and I have never seen but solitary individuals. Those at Kottamangalam are said to be the descendants of some tame animals that had escaped from, or been turned loose by, Tippoo Sultan, when that part of the country was occupied by his armies. When caught young they become very tame, and are used occasionally as draught beasts, though the males become at times somewhat obstreperous. It is known commonly as "the blue bull," and by some naturalists is thought to be the *Hippelaphus* of Aristotle.

Elliott's antelope (or the mountain antelope). Several specimens of this antelope have been killed in the Coimbatore district. Jerdon has included it under *Tetracerus quadricornis*, "the four-horned antelope." It is said to be common at Beilár.

Genus Antelope.—*Antelope bezoartica*. This animal is found in several parts of the plain open country of the district.

CAPRINÆ.—*Genus Hemitragus*.—*Hemitragus hylocrius*, or, according to Blyth, *Capra hyloeria* (the Nilgiri wild goat). This is the ibex of Madras sportsmen, and is found in this district on the Anaimalais and Nilgiris, and on some of the spurs of those hills, having been seen as far east as Rungasawmy's Pillar overlooking the Gazalhatti pass. I must refer those who are desirous of knowing more of this animal to Jerdon, "Hawkey's" article in McMaster's Notes, and to a communication of "Smoothbore" in the "Field" of 30th November 1872, which is completely exhaustive. *Capra domestica* (the common goat).

Genus Ovis.—There are no wild sheep in the district and only two domestic species,³ viz., the black-headed sheep and the large dark brown animal with pendulous ears.

Genus Gaurus.—*Gaurus gaurus* (the gaur). This, the grandest and largest of the bovine family, is an inhabitant of the large forests in the district, and particularly in those bordering on the Mysore territory to the north, he is met with in considerable herds. The other animals of the bovine family in the district are the common domestic cattle and the buffalo. The former are not of so fine a race as those of Mysore, where there are very beautiful specimens to be met with; but, all the same, they are useful and valuable animals. The bullocks are used as beasts of burden, and their powers of endurance are quite wonderful. They will travel twelve or fourteen hours without resting or taking water or food.

BIRDS.

No list of the birds of the district is available; Jerdon and others must be consulted. Birds in the low country are not numerous or peculiar; partridge, quail and snipe, duck and teal in proper times and places are fairly abundant; oholam birds are almost pests in the cold weather.

³ For a description of the district cattle and sheep, see "Agriculture" and sec. "Stock."—N.

FISHES.

The list of fishes given below has been compiled from various sources; the fishermen from each taluk furnished lists, which have been checked with one another, with books, and by observation. A considerable amount of fish is obtainable in the great rivers, and in one or two places a small rental is obtained for the right of fishing, but this is exceptional. In some cases the right of fishing in the channels has been leased out, but this and the unlicensed fisheries therein have been recently, and with reason, objected to by the Public Works Department, as leading to undue silting of the bed. The right to fish in tanks is also leased out. The Bhaváni near Mettupálaiyam yields excellent sport to the skilled angler, but the other rivers of the district appear to be less known, the muddiness and high floods of the Cauvery and the uncertainty of the other rivers being against them. The subject of conserving and increasing the fish supply has not yet been taken up; in 1869 and 1871 there was correspondence on the subject at the instance, it is believed, of Dr. Day, but as yet there has been no result. Writing in 1869 (No. 84, dated 7th May), Mr. A. McC. Webster states that no close time is voluntarily observed by the native fisherman, but that in the large rivers the heavy freshes, especially of the south-west monsoon, enforce a brief cessation which is of little use;* he was not of opinion that large fish were often wantonly killed, but considered that small fry were occasionally destroyed in excess in the Cauvery and Amarávati, the means of destruction being casting and seine-nets and poisoning for large fish, and wicker baskets at dams for the small fry. He was informed that the spawning time of most of the large fish was February to April. In a letter dated 4th February 1871, Mr. H. E. Sullivan states that the poisoning of water is unknown in the district, and that he has not issued orders regarding restriction of the net mesh to not less than four inches in circumference since it would be impossible to carry out such an order without a preventive force. He was not of opinion that it had been shown that the supply of fish had been diminished by any improper practices, and objected with reason to any leasing of a monopoly of fishing. He adds that the existing rentals are very few and small, and sanctioned by long custom, and that no others are being granted. Successive district officers have steadily refused to lease out river or channel fisheries on the ground that it would be productive of hardship to the people, and tend to the very destruction which it is sought to avoid. Paragraphs 5 and 6 of Mr. McC. Webster's letter will be interesting to the angler.

* In few rivers in Southern India do fish rise readily to the fly. The Bhaváni is one of these favored streams, but owing to the constant netting,

* Fishing is, however, chiefly with small or moderately sized nets, which are useless except in comparatively shallow waters; the great rivers have considerable depth and great volume, so that the comparatively few fishermen and their nets cannot effect a serious destruction, except perhaps from January to May, when the rivers are low.

fish are driven by their instincts from their natural feeding-grounds to seek shelter in deep holes, well protected either by their precipitous banks or rocky or root-covered beds, from the ravages of the net. In such places the sportsman can generally only cast his fly from one of those revolving vessels, unfortunately in this country not of the past—a coracle—and should he hook a good fish, unless he be a very Sembadavan in practice, he is so taken up with keeping his balance that the fish is left very much to itself for the first few seconds, in which time its surprise at feeling the hook has passed off and it is generally safely ensconced behind the protecting roots of some old forest tree, round which the line is inextricably twisted. The Canara rivers excepted, I have not seen a finer stream for fishing than the Bhavāni near Mettupālaiyam, and the Bhavāni has advantages as a fish producing source that the Canara rivers do not possess. In the latter district the best fishing ground is invariably in the upper waters in a thinly-populated country, whereas from Mettupālaiyam, with the exception of a few miles between that place and Kotamangalam, the Bhavāni flows through a fertile and well-peopled country."

For other particulars regarding Coimbatore, see the "Rod in India," second edition, pages 306-309 and 312-13, by Mr. H. S. Thomas, who has had experience in the rivers of the district.

The table adverted to above here follows:—

Tamil name.	Latin and English names.	River.	Remarks.
Bom-min	<i>Barbus tor</i> ; Mahacer.	Cauvery and Bhavāni.	
Vālei	<i>Wallago attu</i> ; Fresh-water shark.	All rivers.	
Sottai vālei .. ..	....	Do.	A small variety, 8 or 10 inches long.
Kendai	<i>Carp</i>	Do.	
Servāraṇu kendai.	....	Do.	Small carp, a few inches long.
Venkendai	<i>Cirrhina cirrhesa</i> ; White carp.		
Karamuli kendai..	<i>Labeo kontius</i> ..	Do.	
Pottai kendai .. ..	....	Cauvery and Bhavāni.	
Tār kendai .. ..	....	Amurāvali and Bhavāni.	Large white fish.
Kuṭṭam kendai .. ..	....	Bhavāni.	
Muḍu kendai .. ..	....	Udamalpet	Probably only a local name.
Shāl kendai	<i>Barbus Carnaticus</i> ; Carnatic carp.	All rivers.	
Velleichchi .. ..	....	Do.	
Pakiri .. ..	....	Do.	From 4 to 18 inches long; white belly, dark back.
Koratti .. ..	....	Do.	
Manjalai .. ..	....	Cauvery	Whitish; 8 or 10 inches long.
Vēḷṅgu	<i>Eel</i>	All rivers.	
Aral .. ..	....	Do.	Black, 8 to 18 inches; long snout; ridge of back spiny.

Tamil name.	Latin and English names.	River.	Remarks.
Kelatti	All rivers	Smallish fish, square nosed, two feelers on upper lip, pointing backwards, four small ones on under lip; spines on back.
Ulavai	Do.	Reddish; about a span long.
Viral or Auri ..	Marrel ..	Do.	
Kokku	Bhavani and Cauvery.	Smallish fish, with long jaws and teeth.
Ayaré	All rivers	Very small dark fish, size of white bait.
Karumbé	Bhavani and Amaravati.	Black stout fish, about a foot long.
Ananjā	Cauvery, Bhavani, Amaravati.	Small, carp-shaped, heterocercely colored; orange on fins, purple and blue on back.
Kakkhan	All rivers	Small black fish.
Arangu	Cauvery	Small black and white fish.
Paranoi	Pollachi and Coimbatore.	
Kol' aranjai	Small silvery fish.
Kallangān	Bhavani and Amaravati.	Small, carp-shaped, light or orange fins.
Battu	All rivers.	

Besides the above, the following names have been given :—

Ponnatti—Cauvery.

Kūn-kalaru, Ay-kalaru, Pāral, Paravālei, Kākkāy-pannavāy, Kal-kavan, Sanāmpāral, Nākonthi, Vayalei, Mullu-koratti—in the Bhavani taluk.

Anai-kunju—Karūr taluk.

Paranoi-kunju—Dhārāparam.

Kūru—Pollachi.

Panjalei—Satyamangalam.

Surā—Coimbatore.

Kanthai, Kothalei, Kural, Killu, Sabbal, Idumā, Malli, Sigadi—Kollegāi.

The localities, names, and description are those given by the fishermen; only in some cases have they been identified. Those not entered in tabular form are only mentioned by the fishermen of the taluks entered against them.

The spawning season appears to be from March to July, and the general fishing season is all the year round, except when the depth and the extreme muddiness of the water prevent fishermen from attempting the rivers. Nets, either small casting-nets or a weighted seine, are generally used, but hook and line are also frequent, especially in deep water when nets are useless.

Baits are either small fish, bits of offal or paste, boiled rice, worms, and insects.

BOTANY.

The flora of this district are very interesting from the abundance of hills and forests and from the variety of crops that are grown. Under the head of "Agriculture" will be described all ordinary cultivated products, including trees grown primarily for fruit; in the present section the forest and wild flora will be noticed, including also trees grown for timber and fruit; for a notice of the Forest Department and system, see "Forests."

The plains are but moderately well wooded, and in certain localities are bare, as in some uplands near Coimbatore, some southern tracts in Karúr and Dhárápúram, and, as is always the case, the black cotton-soil tracts. The low-country trees are of very ordinary character, and there is a lamentable absence of fruit trees; several varieties of acacia, the *Albizia amara* and *Wightii*, *Ailanthus excelsa*, and *Melia azadirachta*, are the chief varieties of ordinary trees; the palmyra abounds in Erode, Dhárápúram, and Palladam, and is less frequent in other taluks; the tamarind is poorly represented considering the opportunities for its growth; the cocoanut is not abundant except near Coimbatore, while other fruit trees are scarce. The bambu is practically not represented in the plains, though there are hundreds of river, channel, and tank banks where it might be grown. Avenue trees are chiefly tamarind, neem, wodia (*Odina Wodier*) and ichchi (*Ficus tictela*), and are usually poor in character. Among shrubs of industrial importance and abundantly found may be named the *Cassia auriculata* (ávaram), found almost everywhere in profusion; *Tephrosia purpurea* (kolinji), almost equally abundant; the *Balsamodendron Berryii* (mullu-kiluvai), used universally in the taluks of Erode, Karúr, Bhaváni, and Dhárápúram, and occasionally elsewhere, as a hedge; several species of euphorbia, also used for hedge purposes; and the *Zizyphus jujuba*.

The grasses will be noticed *sub voc.* "Pasture" in the Agricultural section. The fields, especially in the gravelly soils, are usually well hedged, and contain both in the hedges and elsewhere, a variety of ordinary trees; the loppings of the hedges and of the trees yield a good deal of fodder for goats, and, with the cotton shrubs and kambu stalks, supply ample fuel for domestic purposes and for ordinary agricultural wants. But for a sustained supply of fodder, especially in seasons of drought, and for all industrial purposes other than petty agricultural and domestic needs, fodder and fuel plantations are practically wanting. For the beginning of a systematic development in this matter, see "Forests."

A list of the wild flora of the district will be found in the chapter on "Forests;" for characteristics and uses, see Roxburgh, Wight, and Drury.

FIBRES.—The following fibres are found in fair abundance; several of them could be developed with great ease and profit. Full details must be looked for in Royle, Roxburgh, Wight, Drury, &c.

No.	Botanical name.	Tamil and English names.	Cultivated or wild.	Remarks.
1	<i>Abelmoschus esculentus</i> .	Bandikāy ..	Cultivated ..	Grows freely, chiefly in gardens; its pods are the well-known mucilaginous vegetable.
2	<i>Agave Americana</i> .	Common aloe.	Cultivated as a hedge.	Grows freely on gravelly soils of poor quality; specimens dyed various colors sent to Madras Exhibition, 1857.
3	<i>Borassus flabelliformis</i> .	Palmyra (Pani-maram).	Cultivated ..	Strong coarse fibre, much used by ryots.
4	<i>Calotropis gigantea</i> .	Yerukkam ..	Wild ..	A splendid fibre, but as difficult to separate from its woody stem as the rhea (vide Drury, &c.) Grows anywhere on the poorest soils; 8 to 10 feet high on pure sand near Karōr.
5	<i>Cocos nucifera</i> .	Cocoanut (Tennai-maram).	Cultivated ..	Coir of commerce.
6	<i>Crotalaria juncea</i> .	Sunn hemp (Jannapa nār).	Cultivated ..	Chiefly grown in North Erode and South Bhavani, vide "Agriculture."
7	<i>Gossypium</i> ..	Cotton (Parutti)	Cultivated ..	Vide "Agriculture."
8	<i>Hardwickia binata</i> .	Acha ..	Forests ..	...
9	<i>Hibiscus cannabinus</i> .	Pullmanji or Pullichi.	Cultivated ..	A fibre of fair strength, with a probable future in paper-making. From 2 to 3 tons of clean fibre could be regularly got per acre (garden) at Rs. 75 per ton; sold retail at 1 rupee per 25 lb. for cotton baling (vide "Agriculture").
10	<i>Musa paradisiaca</i> .	Plantain (Valai).	Cultivated ..	Abundant, but not much used.
11	<i>Sansevieria Zeylanica</i> .	Bowstring hemp (Marul).	Wild ..	Found largely in the jungles near Bolampatti and Mettupalsiyam. European enterprise has now taken up the collection and extraction of the fibre.

Fibres Nos. 6, 7, and 10 were grown on 299, 230, 355, and 2,403 acres respectively in 1882-83. The figures for No. 9 cannot be obtained, as it is usually grown as a mixed crop and not often separately.

Less important, less abundant, or less used fibres are those from *Acacia Arabica* (karuvula, babul), *Acacia leucophloea* (vel-volam), *Bambusa arundinacea* (mungil, bambu), *Bauhinia diphylla* (ātti), *Grewia* (tādāchi), *Azadirachta indica* (noem), *Guilandina bonduc* (kalāchi), *Helicteris isora* (yadampiri), *Isora corylifolia*, *Pandanus odoratissimus* (tālei, screw-pine), *Sterculia cilliosa* (vakku), &c. Of these the acacias are universal and abundant, but the fibre is not much used; the vel-volam or white variety is particularly abundant, growing in every field of gravelly soil. The bambu is of course abundant in the forests, but the fibre would probably not pay for extraction. Vakku fibre is used for dragging heavy timber from the hills by elephants and is a coarse strong fibre. All these fibres, except bambu, were exhibited for this district at the Madras Exhibition of 1857.

RESINS AND GUM-RESINS.—These are abundant and of the best quality, viz., lac, dammer, both white and black, mattipál (*Ailanthus Malebarica*), Barbadoes aloe (*Aloe vulgaris*, sattu-kattálei). Dammer (kungiliyam) is priced at from 3 to 3½ rupees per 25 lb. in the Coimbatore market. The inspissated mucilage of the dwarf aloe is known as ratta-kattei, ratta-palam or káriappa-pagalam, and is largely extracted in Kángyam, Palladam and Tirupúr by Shánárs and Uppiliyars. The leaves are cut, hung up to drip, and the juice boiled; the product, of a very unpleasant smell, is bought by Saits and exported to Bombay. It is used chiefly for external application to obstinate boils and as a purge to new-born infants; if mixed with powdered kadukáy (myrabolans) it becomes liquid, and is then mixed with castor-oil and lime-juice and taken as a purge. It is also useful in venereal diseases (*vide* also Drury and Ainslie). The price is about 3 or 3½ annas per pound.

Gum-elastic.—The juice of the *Isanandra acuminata* (Indian gutta), found in the Ánimalai forests, bears a similarity to the guttapercha of commerce (Drury). The milk of the elephant creeper (Ánai-pálei) has been proposed as a substitute for India-rubber, and that of *Euphorbia tirucalli* for guttapercha; the latter is said to be too brittle (Madras Exhibition, 1857).

Gums proper.—The *Acacia Arabica* (babul) supplies good and pure gum; that of the *Acacia leucophloea* (vel-velam), *Moringa* (horse-radish tree), *Feronia elephantum* (wood-apple), *Azadirachta Indica*, *Odina Wotier* and *Zizyphus jujuba* are also procurable, the first-named in abundance. Other less important gums are also found (*see* "Drugs").

VEGETABLE OILS.—These are varied and abundant, but require development by mercantile agencies; there is room for several good oil-presses. The character of the oils now procurable is poor; the oils are somewhat dirty and costly owing to the slow and rude process adopted (*vide* "Manufactures," *sub* *see* "Oils").

Gingely (sesamum), castor (chiefly *fruct. majoribus*), cocoanut, ground-nut (*Arachis hypogea*), mustard, margosa (*azadirachta*), iluppai (*Bassia longifolia*), pungam (*Pongamia glabra*), physe-nut (*Jatropha purgans*), soap-nut (*Sapindus emarginatus*), colocynth seed (*Citrullus colocynthis*, vari or pay-komatti), are procurable, the first two being very abundant; gingely oil is produced of good quality; castor or lamp oil is usually very dirty and unfit for any external market, and is chiefly used by the ryots at home; cocoanut oil is scarce, and ground-nut oil is not usually expressed in the district, though the plant is grown to a considerable extent near Karúr. Teak oil was also exhibited in 1857 (*see* Drugs and Forest Produce). Cotton-seed oil is not expressed, though about 10,000 tons of seed are produced in the district every year.

Volatile oils are procurable, but do not appear to be manufactured to any extent.

DYES AND COLORS.—Indigo is nowhere grown, but pálei indigo from the *Wrightia tinctoria* is obtained from trees in the Ánimalai and

Bhaváni forests. Turmeric (*Curcuma longa*) is abundant and of prime quality, as also myrabolams (*Terminalia chebula et bellerica*), safflower (*Carthamus tinctorius*), sappan (*Cassalpinia sappan*), marking-nut (*Semecarpus anacardium*), and *Cassia auriculata* are also procurable (see "Manufactures," *sub* *roc.* "Dyeing").

TANNING MATERIALS.—The bark of *Cassia auriculata* (áváram, tangedu) is universally used in the district, being a powerful tanning agent; myrabolams, both kadukáy and tanikáy (*Terminalia chebula et bellerica*), which abound in the forests, are used to give color and finish. There are a few full-grown trees of divi-divi (*Cassalpinia coriaria*) near Coimbatore; the soil and climate appear to be suitable, and they produce abundantly in two crops per year. It will be remembered that the *Acacia leucophloea* is particularly abundant in this district, and that the circumstances which suit this acacia are believed to suit the divi-divi. Native tanners do not use divi-divi, or the bark of either the *Acacia Arabica*, *Acacia leucophloea*, or the rind of the pomegranate. Catechu is procurable from the forests.

A list of drugs will be found in the Appendix; for use and application, see Drury, Ainslie, Waring, Mohidin Sherif, &c.

CHAPTER III.

ETHNOLOGY AND CONDITION OF THE PEOPLE.

POPULATION.—Birth-rate.—Death-rate. RELIGIONS.—Hindus.—Muhammadans.—Christians.—Others. CASTES.—Brahmans.—Shettis.—Vellalars.—Goundans.—Idaiyar.—Kammalar.—Keikalar.—Vanniyar.—Uppiliyar.—Sattari.—Shanar.—Vaniyar.—Vellar.—Parishu.—Hill tribes. LANGUAGE. OCCUPATIONS. CIVIL CONDITION. EDUCATION. DISEASES. INFIRMITIES. ACCIDENTAL DEATHS, &c. AGES.

With the exception of the remarks on religions and castes,¹ the material for which has been obtained by local enquiry and observation, the present chapter is based on the Census reports, chiefly that of 1881. This census may be considered exceptionally correct; it was the sixth regular census since 1851: the ryots understood that it was not a matter of taxation, and while each ryot was of course capable of stating the numbers of his household with accuracy, the sifting and testing process was severe. But in matters of ages and occupations the universal inaccuracies will be found; *e.g.*, the entry of 800 "manufacturing chemists" in this district is an unintelligible blunder.

POPULATION.

The following table gives the population from 1822, when the first census was attempted. The figures are, however, probably understated till the census of 1871, in which females, who, except in 1822, had till then been returned as fewer than males, were returned in excess, *viz.*, in the ratio of about 102 to 100. In the present census 105·3 to 100 is the ratio found, *viz.*, 850,131 to 806,859.

1821.	1835.	1851.	1866.	1861. *	1866.	1871, November.	1881, February.
638,199	783,392	1,153,862	1,176,831	1,215,929	1,430,735	1,763,274	1,857,690

The figures to 1866 include the population of the Nilgiria, which in 1871 were separately enumerated and returned as 49,501 persons. The true district total for 1866 was 1,392,596, and the increase in 1871, 370,078, being a percentage of 26·6 in five years; this shows that, even allowing for abnormal reproduction, the 1866 and previous censuses

¹ In the notices of religion and caste only so much as is peculiar to the district has been touched upon, and this has necessarily been upon special enquiry, since nothing is to be found in the records: the information is therefore open to correction. The economical condition of the people is briefly discussed in Chapter X.

were very imperfect, since Dr. Cornish estimates the normal increase at 1·5 per cent. per annum or 7·5 in five years, while Mr. G. Stokes estimates it at only ·795, or 3·975 for five years. Under the circumstances then existing, viz., the stimulus to the ryot class of high prices and good returns, a larger increase may be assumed for 1866-1871; in 1875 the ryots actually complained to Mr. Robertson that their families were larger than they used to be; this, though not very good evidence, since the assertion could hardly be within their own experience, is corroborative of the opinion that reproduction and increase were then abnormally high.

In November 1871 the population was 1,763,274, in February 1881 it was 1,657,690, showing a loss of 105,584 or 5·99 per cent., due to the famine of 1877-78. Calculated by the estimated normal increase of 7·95 per cent., the population, but for the famine, would have stood in 1881 at 1,897,297, or 239,607 more than were actually found.

The following table distributes the population; the area omits the unsurveyed mountains and forests, which are inhabited by only a few wild tribes.

Taluk.	1	2	3	4	5	Population.			Density.		Proximity of area in acres per unit.	Cultivable area per unit in acres (assessed area).	Occupied area per unit in acres, 1880-81.	Cultivated area per unit in acres, 1880-81.	Hindus.	Mohammedans.	Christians.	Others.	Total.
						Males.	Females.	Total.	Per square mile.	Per occupied house.									
Bharani ..	508	1	19,651	61	46,280	47,893	94,123	186	4.6	3.44	2.43	1.25	1.25	1.23	90,070	606	2,216	1	94,123
Chinnalore ..	677	1	51,761	261	131,334	136,470	267,804	395	5.2	1.61	1.55	1.07	1.07	.98	207,892	2,006	4,200	100	207,804
Kollegal ..	813	1	12,617	37	37,890	39,632	77,522	95	6.1	6.71	4.46	1.16	1.09	1.09	74,279	2,945	206	33	77,522
Dharmapuram.	830	1	43,661	94	94,800	100,432	195,232	233	4.3	2.74	2.60	2.20	1.74	1.74	190,490	4,341	401	..	195,232
Erode ..	690	1	45,427	96	96,010	99,090	195,099	220	4.3	1.66	1.75	1.32	1.35	1.35	192,148	2,722	783	16	195,669
Karur ..	612	2	39,720	85	85,363	91,770	177,135	290	4.5	2.21	1.84	1.81	1.43	1.43	167,899	3,365	931	..	177,135
Palladam ..	739	..	47,971	104	103,116	110,276	213,391	288	4.4	2.21	2.03	1.80	1.34	1.34	207,806	3,367	2,107	7	215,391
Pallachi ..	446	1	37,816	160	85,737	89,172	174,909	386	4.6	1.65	1.29	1.25	1.25	1.13	169,670	3,225	96	9	172,900
Satyamangalam ..	969	1	32,489	184	78,703	77,551	156,254	158	4.7	4.66	3.13	1.24	1.24	1.12	146,753	2,734	1,831	6	151,313
Udumalpet ..	965	1	23,916	88	53,985	58,686	112,672	308	4.7	2.07	1.85	1.71	1.39	1.39	108,447	3,684	441	..	112,372
District ..	6,562	10	354,920	1,437	805,869	846,831	1,652,699	253	4.7	2.53	2.07	1.25	1.25	1.28	1,606,843	37,856	13,326	166	1,657,690

N.B.—Columns 12, 13, and 14 are not quite correct, since the Palayapat population is included in the total population, whereas these columns relate only to Government and Inam areas, and do not include the Palayapat areas, for which details are wanting; the error is trifling. Column 14 relates only to the area cultivated, but as part of this was cultivated twice over, the actual cultivation per head was 1.33 acres. Column 12 for Kollegal includes vast forest areas, and is somewhat misleading; the bulk of the population lives in 91 villages, of which the assessed area is 128,106 acres.

BIRTH-RATE.—The births registered since 1879 are tabulated as follow :—

Births.	1879.		1880.		1881.		1882.		1883.		Average.	
	Number.	No. per mille.	Number.	No. per mille.	Number.	No. per mille.	Number.	No. per mille.	Number.	No. per mille.	Number.	No. per mille.
District	23,560	14'38	32,951	30'61	36,062	21'15	42,170	33'44	41,667	29'00	55,912	21'12
Karúr town.	186	29'29	319	34'05	341	37'00	411	44'95	425	45'54	335	35'29

In the Karúr Municipality, where registration is very well carried on, the births registered since 1879 are as entered in the second line of the table.

The figures for 1879 in Karúr should be omitted, as the results of the famine had not subsided, and as a new arrangement regarding registration was only made in that year. The average per mille of the subsequent four years was 40'54; allowing for a somewhat increased population in 1882 and 1883, the probable birth-rate is between 38 and 40 per mille; something slightly under this number may be assumed for the district. The number of children under one year of age in 1881 being 3,164 per 100,000, it is evident that as deaths under one year of age are numerous, the birth-rate must be considerably above 31'64 per mille; a rate of 36 to 38 per thousand is probably near the truth.

The proportion of females to males is 105'3 to 100, the normal birth ratio, according to the figures of the Lying-in Hospital (Madras) for ten years, being 107'4 to 100 on a total of 13,544 births.

DEATH-RATE.—The deaths registered since 1879 are entered in the following table :—

Deaths.	1879.		1880.		1881.		1882.		1883.		Average.	
	Number.	No. per mille.	Number.	No. per mille.	Number.	No. per mille.	Number.	No. per mille.	Number.	No. per mille.	Number.	No. per mille.
District	21,727	12'23	18,790	11'48	21,297	12'81	23,300	15'62	30,468	18'30	—	—
Karúr town.	182	29'0	184	20'0	220	27'00	225	24'0	306	32'15	—	—

Omitting 1883, in which there was severe cholera in Karúr, the average death-rate for Karúr from 1880 to 1882 was 22'71 per mille. The effect of famine in previously removing many aged and weakly persons is partly balanced by its effect in weakening the constitutions of many of the survivors, so that from 22 to 25 per mille may be taken as the normal death-rate. Hence the normal increment of population is probably between 10 and 15 per mille per annum, inclining to the latter increment in ordinary and favorable years, and to the former in years of scarcity and disease. Vital statistics are inaccurate by want of supervision, by indolence, by disinclination to inquire about low castes,

by residence of the registering officer elsewhere than at the village, and by temporary absence for two or three months at jamabandi.

The best registered taluk is Karúr. The following table gives the registrations per mille for each taluk since 1880-81:—

Year.			Bhavani.	Coimbatore.		Dháráputata.	Erode.	
				Taluk.	Municipality.		Taluk.	Municipality.
1881 ..	Births ..	..	17.64	21.47	30.43	20.33	16.02	25.34
	Deaths ..	..	12.32	12.70	19.11	11.41	9.95	16.42
1882 ..	Births ..	..	21.32	22.08	31.89	27.18	26.07	28.69
	Deaths ..	..	13.58	15.23	28.10	11.80	12.30	14.69
1883 ..	Births ..	..	23.11	19.53	37.57	28.06	27.11	35.07
	Deaths ..	..	15.51	19.71	25.66	16.84	14.92	30.22
Average..	Births ..	..	20.65	21.0	33.29	25.19	23.06	29.79
	Deaths ..	..	13.8	15.88	24.38	13.35	12.41	20.44

Year.		Karúr.		Kollegal.	Palladam.	Pollachi.	Satyamunga- lan.	Udumalpet.	District.
		Taluk.	Municipality.						
1881 ..	Births ..	23.91	37.05	15.28	23.48	24.19	18.90	22.26	..
	Deaths ..	11.28	23.90	11.90	12.52	16.63	13.05	15.51	..
1882 ..	Births ..	33.12	44.65	16.78	24.88	25.53	21.55	28.38	..
	Deaths ..	13.70	24.44	14.46	15.38	20.30	13.80	16.73	..
1883 ..	Births ..	30.56	46.95	15.33	25.17	24.77	22.0	24.82	..
	Deaths ..	24.47	55.18	14.29	16.80	20.87	16.86	16.33	..
Average..	Births ..	28.19	42.55	16.46	24.51	24.86	20.82	25.15	27.41
	Deaths ..	16.5	24.17	13.55	14.9	21.26	14.23	14.85	16.81

RELIGIONS.

These may be divided into Hindu, Muhammadan, Christian and others.

The following statement gives the numbers and percentages to population under each religion in each taluk and town:—

The Hindus have lost 6·34 per cent. of their numbers since 1871, the Muhammadans have increased 5·08, and the Christians 10·43 per cent.

HINDUS.—The question of the religion of the various Hindu inhabitants is very difficult; nominally they are divided as tabulated below:—

Census.	Śaivas.		Vaiṣṇavas.		Lingayats.		Others.		Total	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
1871	1,318,500	18·0	390,025	52·8	5,615	·3	275	·02	17,15,081	100
1881	1,207,400	15·77	501,072	52·55	4,500	·25	22,400	2·02	10,08,543	100
Decrease or Increase	— 111,100		— 29,353		— 515		+ 22,125		— 108,738	

The discrepancies between the results of the two censuses, especially as regards Lingayats and the large number of "others," are probably the result of faulty enumeration.

As a description of the faiths and cults of the people, the classification is misleading, or at least wholly defective. That the general Hindu population may not object to worship at the temples of one or other of the great cults of Śiva and Viṣṇu is undoubted, but that the people in general are primarily worshippers either of Śiva or Viṣṇu it is impossible to believe; such temples are comparatively rare in the villages, where the worship of the powers of nature, of demons, and of heroes is almost universal; whatever there is not in a village, there is universally at least one fane dedicated to some power under one of the female names (Māriamman, Kongaliāman, Kāliāman, &c.); the Muniappan (demon or hero) temple is also frequent, while the rude stone or sculptured snake under some village tree is common; the temples belonging to the Brahmanic cult are comparatively infrequent. The shrines that have hold of the people, especially the cultivator class, are the rustic shrines where bloody sacrifices of fowls, goats, and buffaloes are habitual, and where at given seasons, especially near the end of the Tamil year, whether they be harvest thanksgivings, the payment of vows, or propitiations for the ensuing year, victims are offered which are numbered by thousands, including the evidently aboriginal sacrifice of buffaloes. At all of these shrines there is at least weekly worship, especially on Fridays and Tuesdays, and usually a regular Śudra priest (Āndi), who is supported by the ryots and often by regular endowments in land. The Nātturāyan (lord of the country) temple near Vellei-kovil, the Māhāliāman temple in Somarpatti village near Udamalpet—where the votive offerings of centuries have accumulated into a rampart of rude pottery images—and the Kotteimāriāman-kovil of Kolanalli near Unjalūr—where, at the full moon of Panguṇi (March), 3,000 sheep and several hundred buffaloes, beside fowls innumerable, are offered by the ryots, who, in holiday attire, crowd in from all parts of the Kongu country, whether in the Coimbatore or Salem district—are celebrated instances of aboriginal temples; but everywhere, and at all seasons, it is common to see crowds of well-dressed ryots on their way to make

pougal at some village shrine, whereas, except on occasions of ear feasts and by the better class especially of townspeople, the Brahmanic temples are but moderately resorted to. Even temples that are now Brahmanic show traces of having been aboriginal, such as the favorite Chennimalai fane, which still bears the name of Chennimalai Rāyan temple, and is not one of the seven recognized Kengu Sivālayams or Saiva shrines, while the presence of the Amman kovil in such Brahmanic temples as the Karūr Sivālayam, and the annual marriage of the god and goddess, point to a wedding of diverse cults, of which the universality of the Amman worship, especially in the most rural tracts, attests its local precedence. The rustic proverb as to the luck of a village makes no mention of Brahmanic, but of aboriginal deities and trees; epidemics are the wrath of the offended Ammans or personified laws of nature, a belief in which they are probably not far wrong if they would but recognize the laws; and worship and offerings are then made at these temples and not at the Brahmanic shrines.² It is a matter of doubt whether the lingam is an object of aboriginal worship; the rude stones set up under a tree in a field and occasionally anointed and daubed with color would seem to favor an answer in the affirmative, while it is certain from the images to be seen in the cornfields and dangling from fruit-bearing palmyras that the generative powers of nature are recognized under the form of Priapus. Similarly it is noticeable that the potter never begins his day's work at the wheel without forming into a lingam and saluting the revolving lump of clay, which, with the wheel, bears a strong resemblance to the usual sculptured conjunction.³

In other words then, life and death, weal or woe, health or sickness, the harvests or the droughts and blights, are, in the ryots' opinion, in the power of aboriginal deities, whom he therefore hastens to propitiate, though he recognizes the gods of Brahmanical shrines as other manifestations of deity. The worship of Vigneswara (Pillar) is especially general; the reason for this favoritism is unknown and deserves investigation.⁴

The priests of the ryots are Āndis (Sudras), who officiate at the village temples, and from whose hands almost every caste save the Brahman may take water; these perform the periodical (usually weekly)

² It is remarkable that persons who have died of an epidemic disease (*e.g.*, small-pox or cholera) are invariably buried, not burnt, and, if possible, by the edge of water. No good reason has been assigned for this practice, the only assertion being that music is essential in a cremation procession, whereas it is not allowable in the case of epidemic corpses "because the Amman would be offended." The explanation is curious, if true, especially as music is believed to be used for the purpose of keeping off the lower orders of spirits.

³ It is curious that the first shape into which the ancient Egyptian disl, and the modern potter every where still does, mould the revolving clay, is the identical lingam-shaped cone which the Hindu potter forms and adorns as a preliminary to work. It is probably a necessary form in the process of air-expulsion and in the production of cylindrical vessels.

⁴ There are reasons connected with the name, with the universality of its worship, and with its special worship at marriages, to induce the opinion that it is an indigenous or aboriginal personification of the generative power of nature.

worship at the shrines, and slaughter the buffaloes at festivals. On occasions of Vellála family ceremonies, such as marriages, Arumikárams or Vellála lay-priests officiate, the Brahmans not being necessary, though often introduced, especially by the better class of ryots; the Brahman is hardly to be found except in towns or along the great rivers, and exercises no religious influence over the masses of the people, except that he acts, perhaps, as astrologer or almanac.

The tenets of the Lingáyats have been described to some extent on pages 98 and 99 of the Census Report for 1871. The Sátánis, as a religious sect, and disciples of Chaitanya, must not be confounded with the extraordinary collocation under the head of Sátánis, *sub rec.* "Castes," *q.v.*; true Sátánis are rare in this district.

The chief shrines and places of worship and pilgrimage are as follow: Venjamangúdalár, Karúr, Kodumudi, Bhaváni, Tirumuruganpúndi, Avanášhi—these are the special shrines (Siválayams) of the Kongu country; their position with that of the seventh (Tiruchengód in Salem) probably indicates the area and position of the original Kongu country. Perúr (see Fergusson), Velliyangiri and Trimúrtimalai are other famous shrines. Tánthoni near Karúr and Kárimadai near Coimbatore are celebrated Vishnu temples. Sivanmalai, Chennimalai, Vattamalai, Úthiyúr, Maruthamalai, Kotteimáiriamman (Erode taluk), Nátturáyan near Vellei-kovil, Gurunáthasami near Andiyúr, are temples that are especially resorted to; it is curious that most of these, *e.g.*, the first five, are on the hills; the first four and the seventh, which are special favorites, are all within twelve miles of Kángyam.

There are three matams (*maṭam*), viz., one at Karúr and one at Perúr, and one belonging to Dharmapuram at Perúr. The district is occasionally visited by celebrated gurus from Mysore and elsewhere, who, with numerous followers, elephants, carts, &c., make tours amongst their adherents for the support of religion.

There appears to be no liturgy or written formulæ of worship in the indigenous temples; anointing with oil, daubing with red paint, the burning of camphor and ringing of a bell, accompanied by offerings of food or blood together with prostrations, circumambulations, and the expression of the wishes, if any, that may be the cause of the worship, are the only rites observed. But the subject is very obscure and will best be investigated by those who have the leisure and attainments necessary for such an enquiry.

MUHAMMADANS.—These are chiefly Sunnis. Karúr taluk contains, chiefly as Labbaia, nearly double the number in any other taluk.

Census.	Sunnis.	Shias.	Wahabis.	Others.	Total Muhammadans.
1871	33,936	871	140	1,079	36,026
Per cent. ..	94.2	2.4	.4	.3	100
1881	31,014	1,229	1	5,381	37,625
Per cent. ..	82	3.25	..	14.75	100

CHRISTIANS.—These are not numerous, being in 1881, according to the census, only 13,326 or 0·81 of the population, against a presidency average of 2·28; of these, 11,552 were Roman Catholics and 1,756 Protestants of various denominations. The following table gives particulars for 1881 :—

Nationality.	Roman Catholics.	Protestants.					
		Baptists.	Church of Eng-land.	Church of Scot-land.	Congrega-tionalists (London Mission).	Luther-ans.	Presby-terians.
Europeans and Eurasians.	No. ... 116 Per cent. ... 21·20	14 2·56	203 37·18	..	25 4·58	2 ·37	13 2·58
Natives ..	No. ... 8,579 Per cent. ... 85·79	..	17 ·17	..	111 1·09	95 ·94	13 ·12
Not stated.	No. ... 2,080 Per cent. ... 77·93	2 ·08	174 2·62	7 ·26	96 2·10	4 ·15	2 ·08
Total	No. ... 10,870 Per cent. ... 81·37	16 ·12	394 2·96	7 ·05	192 1·44	101 ·75	28 ·21
Nationality.	Protestants—(Continued).					Total Protest-ants.	Total Christians.
	Protest-ants.	Syrians.	Wesleyans.	Others.	Not stated.		
Europeans and Eurasians.	No. ... 36 Per cent. ... 6·59	..	102 18·68	13 2·33	22 4·03	450 78·75	546 100
Natives ..	No. ... 433 Per cent. ... 4·31	5 ·04	35 ·35	24 ·23	704 6·96	1,437 14·21	10,111 100
Not stated.	No. ... 251 Per cent. ... 8·40	13 ·48	2 ·06	18 ·68	60 2·24	559 22·07	2,639 100
Total	No. ... 720 Per cent. ... 5·40	18 ·14	139 1·04	55 ·41	786 5·90	2,456 18·43	13,326 100

A number of non-Romanists simply entered the word "Protestant," which has accordingly been separately stated. These and the "not stated" probably include many Congregationalists, who, according to the London Mission, number 695 instead of 192 in the table; also many Lutherans, whose numbers according to Mission statistics are now 369 instead of 101. Similarly, Wesleyans are said to number 276 instead of 139. The European and Eurasian Wesleyans are entered at 102 in this table; this is probably a mistake and includes persons attending Messrs. Stanes' meeting-house in Coimbatore. It will be seen that Roman Catholics far outnumber Protestants, being 86·69 per cent. of all Christians against 13·31 of Protestants and others. After deducting the inmates of famine orphanages and the birth increment, there has

been no very active progress of Christianity, the total increment being 10·43 per cent. Only three other districts show a smaller gain, the average presidency increase being 31·04 per cent.³ The increase of 1,241 over the figures for 1871 is divided as follows:—

Census.	Roman Catholics.		Protestants.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
1881	374	3·35	867	97·65	1,241	100

Europeans and Eurasians have been lumped together, the distinction as recorded in the censuses being wholly untrustworthy (*vide* Castes). The Roman Catholics are to be found principally in Bhaváni, Coimbatore, Palladam and Satyamangalam; the Church of England and all except the true Wesleyans, who are in Karúr, are principally in the Coimbatore taluk, chiefly at Coimbatore, Mettupálaiyam and Pódanúr. The Wesleyans only re-entered the district a few years ago, and began operations in Karúr and Dhárápúram.

OTHER RELIGIONS.—The Jains number only 68, and are found principally in Erode taluk near Perundurai, in the vicinity of which are five temples with Jaina Brahmans as priests, and small inams. Other religions have but 84 adherents, including 63 Buddhists.

CASTES.

Eighteen major heads of Hindu castes have been adopted for the censuses of 1871 and 1881; in 1881 these were sub-divided into 139 classes. The following table gives the 18 major-heads:—

No.	Caste.	Census.	Males.	Females.	Total.	Percentage to total Hindus in district.	Presidency percentage.	Percentage of females to males.	Ratio of totals of 1881 to 1871.
1	Brahman ..	1871	14,348	14,056	28,404	1·6	3·75	97·96	+ 4·66
		1881	14,913	14,877	29,792	1·85	3·84	99·75	
		1871	1,377	1,260	2,637	·2	·64	91·5	+ 15·24
2	Kabatriya ..	1881	1,498	1,541	3,039	·18	·68	102·87	
		1871	27,061	28,603	55,664	3·2	2·47	105·7	— ·95
3	Shetti ..	1881	26,757	28,379	55,136	3·43	2·25	100·06	
		1871	347,894	363,076	708,970	40·8	26·80	102·28	— 1·87
4	Vellála ..	1881	335,405	354,997	690,402	42·38	27·25	105·84	
		1871	20,420	20,981	41,401	2·4	6·02	102·75	+ 2·49
5	Idiya ..	1881	20,425	22,007	42,432	2·64	5·54	107·75	
		1871	20,082	19,791	39,873	2·3	2·71	98·1	+ 9·25
6	Kannála ..	1881	21,436	22,028	43,464	2·71	2·98	102·79	
		1871	926	926	1,846	·1	·37	99·36	— 42·4
7	Kanakku ..	1881	533	529	1,062	·07	·36	99·25	
		1871	44,332	46,292	90,624	5·3	3·65	103·95	— 10·11
8	Keikala ..	1881	39,032	42,559	81,591	5·08	3·44	108·9	

³ For further details as to Christians, see "Missions."

No.	Caste.	Census.	Males.	Females.	Total.	Percent- age to total Hindus in district.	Presi- dency percent- age.	Percent- age of females to males.	Ratio of totals of 1881 to 1871.
9	Vannia ..	1871	89,198	71,590	140,698	8.1	13.48	103.33	- 23.6
		1881	92,135	55,313	107,480	6.69	13.16	100.16	
10	Kusava ..	1871	8,188	8,250	16,438	1.0	.87	100.76	- .02
		1881	8,007	8,227	16,294	1.03	.93	101.98	
11	Sitani ..	1871	61,500	52,143	103,643	6.9	2.40	101.24	- 36.26
		1881	31,796	34,272	66,068	4.13	2.26	107.79	
12	Sambadava ..	1871	8,410	8,719	17,129	1.0	3.47	103.67	+ 40.1
		1881	12,190	12,814	25,004	1.56	3.67	105.11	
13	Shanán ..	1871	91,287	31,527	62,814	3.6	5.51	100.76	- 11.91
		1881	27,129	38,388	55,517	3.43	5.69	104.64	
14	Ambatta ..	1871	10,419	10,250	20,669	1.2	1.13	98.38	- 2.94
		1881	16,012	10,040	26,062	1.25	1.22	100.36	
15	Vannán ..	1871	12,294	12,378	24,670	1.4	1.80	100.67	- 5.48
		1881	11,416	11,901	23,317	1.55	1.84	104.25	
16	Othava ..	1871	70,469	69,710	140,179	8.1	15.88	98.93	- 8.23
		1881	62,739	65,733	128,492	7.09	9.76	104.6	
17	Pariah ..	1871	118,375	117,839	236,205	15.7	8.98	99.64	- 6.43
		1881	100,092	110,173	216,270	13.46	15.58	103.85	
18	Caste stated.	1871	..	..	..	..	..	..	..
		1881	391	383	774	.03	.11	97.95	

The castes or divisions of most numerical importance are further tabulated as follows :—

Caste.	Hindus.		Caste.	Hindus.	
	1871.	1881.		1871.	1881.
Brahman	28,404	29,793	Kurumba .. ..	..	25,587
Rájpút	723	956	Mádris or Chakkila .. ..	..	120,380
Agamudiya .. ..	..	17,924	Murava	3,825	5,165
Ambalakara	8,002	5,489	Odde or Wudder .. ..	..	47,769
Ambatta	20,669	20,062	Padciyáchi .. ..	..	60,450
Balla	22,751	18,988	Pali	53,800	42,009
Reata or Valciya	12,227	11,978	Pariah .. ..	..	53,059
Devanga	12,164	18,830	Reddi .. ..	..	6,316
Golla or Ideiya	17,026	16,444	Saniyan	14,301	18,059
Lingadhari	4,559	4,565	Shanán	62,814	55,517
Kokala	48,693	45,007	Sambadava	17,129	19,578
Kalla	2,007	1,161	Shetti	55,564	43,475
Kamma	40,539	55,465	Vadaga	13,339	12,103
Kannála	89,783	39,211	Vannán	20,204	22,517
Komati .. ..	..	6,624	Vania	18,611	4,605
Kusava	16,435	16,394	Vellala .. ..	..	690,402
Sect.	Mahamadan.		Sect.	Mahamadan.	
	1871.	1881.		1871.	1881.
Latbi	36,026	27,185	Sayyid	2,128	4,583
Pathán	4,239	2,002	Shaikh	9,554	1,853

This table does not represent accurately the comparative numbers of each caste in 1871 and 1881; in the enumeration there was evidently

a good deal of confusion, *e.g.*, the Komati Shetties, a well-to-do class, were entered at 20,662 in 1871, but in 1881 were only 6,624, an impossible diminution; while Shetties have increased from 34,595 to 48,476. Similarly Kongu Vellalars, a mere tribal or territorial appellation of some Vellalars, appear as 12,694 in 1871 and as 54,239 in 1881. Much of the alteration is due to persons describing themselves differently to the enumerators, *e.g.*, one time as a Vellalan and next time as a Kongu Vellalan. The aggregation of Mádigars (Chakkiliar), Pallans, and Pariahs under the head of Pariahs has also led to confusion.

The subject of castes is one of the greatest difficulty and demands a lengthy enquiry to obtain practical knowledge, which has not been generally possible in writing this manual. A few general remarks may be of interest, but details, except as to the Vellalar, would probably be misleading owing to imperfect information.

BRAHMANE.—These are unusually scarce (*cide* table), probably because the country is dry and poor and requires continuous manual industry for a livelihood. The banks of the Cauvery, with the rich irrigation of the Kalingaráyan in Erode and the Cauvery channels in Karúr, and the fertile lands watered by the Amarávati from its entry on the plains at Kalláparam to its junction with the Cauvery near Karúr, are much favored by Brahmans, who hold many of the finest lands, especially in the villages near large towns or in commanding positions. Many of them have evidently worked up the river from Tanjore to Erode; north of Erode the Bhaváni taluk is largely occupied along the Cauvery banks by Canarese Brahmans from Mysore. Telugu Brahmans are also very numerous along the same river. The famine had naturally no effect upon this caste, whose numbers have risen from 28,404 in 1871 to 29,702, and from a percentage of 1·6 to 1·85, the percentage being increased both by an increase of Brahmans and a decrease of other castes. The karnams of the district are usually Brahmans, and, in consequence, it is very difficult to get them to live in or thoroughly inspect their villages, as they naturally gravitate to the agra-háram of the nearest town. Very few munsifs and monigars, except in the irrigated villages, are Brahmans. In other Government service they are predominant, very few of the other district castes, who are mostly agriculturists, artisans, and petty traders, being as yet fitted for office either by capacity or education. The sudden and rapid rise in the value of wet lands has enriched a good number of families, amongst whom may especially be noted the Putti family of Nerur, Karúr, Ándánkovil and Chinna Dhárápuram (Karúr taluk), who are immediately descended from Purniah, the celebrated Mysore minister. But the lavish and reckless expenditure, whether in social or domestic festivities and ceremonies, in charity or in offerings to gurus, so common amongst Brahmans, has left most men heavily encumbered. Many Brahmans are extremely poor and earn a very scanty subsistence as petition and letter writers, stamp vendors, clerks in shops, mendicants, astrologers,

and so forth: the position of many young men who are thrown upon their wits for a bare subsistence is much to be deplored.

SHETTIS.—These are far more numerous (55,136) than in any other district; some (4,013 in 1871) of those entered under this head are the cultivating Shettis, and are not traders at all, but mere ryots. Some castes call themselves Shettis when engaged in trade; in some cases Shánárs have been known to adopt this name when living as shop-keepers and travelling pedlars at markets. Hence the above numbers do not accurately represent the Shetti caste. The Telugu-speaking Komati Shettis (6,624) are both rich and influential, especially in Karúr, but the Náttukottai Shettis have long made Udamalpet a centre of their special business, with the usual profits to themselves, and are now beginning to exploit Karúr. The Kásikára Shettis do not appear to have any standing in this district. Money-lending amongst villagers is chiefly carried on by big ryots and not by professional money-lenders.

VELLÁLAR.—The most important castes are those entered under Vellálar, who number no less than 690,402, or 42·98 per cent. of the population, as against a percentage of 27·25 for the presidency. These castes being the ryots proper, do not bear the famine mark in the same proportion as the rest of the district; their numbers have indeed decreased by 13,168 or 1·87 per cent. of their number in 1871, but the district percentage of decrease is 5·99, or 6·34 for Hindus only, and the Vellála ratio to other Hindus has gone up from 40·8 to 42·98. These are truly the backbone of the district; it is these who by their industry and frugality create and develop wealth, support the administration, and find the money for imperial and district demands, as their own proverb says, "The Vellálar's goad is the ruler's sceptre." These and the Brahmans are the castes with whom all district officers more especially come in contact; the Brahmans because they fill most of the Government offices, except those of the village heads, and because they lose no time in bringing forward their grievances, in asserting claims, or in educating their sons; the latter because they pay the revenue, and hold the land with its numerous rights and duties, disputes and claims, and because their social, caste and temple disputes require continual adjustment by one or other of the departments.

The word Vellálar (lit. irrigators) includes about thirty sub-divisions according to the census table; except a moderate number of Pillays, such as the great family in the Erode taluk, which occupies many of the most important karnamships, the bulk of the Vellálar call themselves Goundans.*

The Goundans include not merely Vellálar, but also Padaiyáchis, Pallis, Okkiliyar and Vettuvár, who are included under "Vanniyar" in the census returns. Their customs are not very dissimilar to those of the Vellála Goundans, and it is difficult to differentiate between the

* For a note as to the derivation of the word "Goundan" see the historical notice.

one class and the others. The following remarks apply to Goundans generally and not merely to Vellála Goundans.

GOUNDANS.—The Goundans are found chiefly in the twenty-four náds of the Kongu country; their chiefs are called pattagars, of whom the principal resides at Pálaivakottai, on the Náyil river in the south of Erode taluk; branches of the family are also found near Kángyam; he is stated to be judge and arbitrator in caste matters. The family are large land-owners and cattle traders.

Kottugárs are village chiefs, and are usually respectable ryots chosen by the villagers as their local leader and arbitrator. The kottugár is often appealed to in matters of caste and police, and for protection against petty village or other injustice; he also regulates village festivals. Arumeikárans are lay priests; apparently any respectable and well-conducted Goundan of either sex can become an arumeikáran or arumeikári, but a good deal of expense must be incurred. They are absolutely essential in all social ceremonies, such as marriages; most of the details are initiated or conducted by the arumeikáran or arumeikári; e.g., the first pole (*mugúrtha-kól*) of the marriage pandal must be planted by the arumeikáran, and the arumeikári ties the *táli* on the bride's neck. Pongal is first made by arumeikárans at their sheepfolds, and only afterwards may ordinary ryots make it; they receive honor at village festivals and are alone entitled by strict usage to a pandal in front of the houses. It is said that a bride will sometimes, if her father is rich, demand that he perform Ṛ̥ for herself and husband; this he is bound to do, though it may cost him Rs. 200; this is the second Ṛ̥ , the first being the marriage; the pair thus blessed can perform for themselves a third Ṛ̥ or silver wedding at the marriage of their children, and these are the persons called arumeikárans (persons of repute).

Pulavars are supposed to be the learned men of the caste and are the depositaries of caste legend and custom; they have a tradition that they are descended from the amanuenses of Kamban, who is specially revered by Goundans. It is said that various unpublished poems are in their knowledge or custody, and promises were made to furnish information on several points; this has yet to be done.

Modivándis are the regular beggars sanctioned by the caste; it is said that the pattagar has the right of nominating them, as also of pulavars, but this is doubtful (see "*Modivándis*," *sub voc.* "*Ándis*").

The barber is an important village officer amongst Goundans; he is the messenger, the guard to females in visiting other villages, epithalamist to the village, &c., besides his regular duties.

The village schoolmaster (when there is one) is supported by the chief men, and is jack of all trades, such as astrologer, exorcist, augur, letter writer, discoverer of lost property, and even sometimes a cattle driver.

The following are notes on their chief social ceremonies:—

Marriage.—These are *de consensu*, and are wholly arranged by the parents. They take place after puberty, the male being about 20 and the girl about 15; the only exception is when a boy of 7 or 8 is occasionally married to a maternal uncle's or paternal aunt's daughter of perhaps 16 or 18, in order to avoid losing so specially proper a relationship for marriage; in this case it is said that the boy's father is the *de facto* husband. But this barbarous and objectionable custom is more honored in the breach than in the observance, and is hardly practised, though it is alleged that it can be enforced by appeal to the community, and that, upon any objection, the boy's mother is entitled (to threaten) to drown herself in a well, or (as is not unfrequently the case) she will incite her friends to tie a táli on the girl by fraud or force. The maternal uncle's daughter is the absolutely correct relationship for a wife; the origin of this opinion is not known; it is the bride's maternal uncle who carries her to the náttu-kal at the village boundaries, which is equivalent to a publication of the banns; the stone represents the external world, which, so far as a Goundan cares, is limited to the twenty-four náds of the Kongu country.

Wedding guests are summoned by the modivándis after the auspicious day has been settled; each guest must bring a money gift (*Qarvú*) of a rupee or two; the burden of this custom is relieved by reciprocity being strictly observed; a wedding costs at least Rs. 50, and of course as much more as competition and wealth dictate. The standard minimum fee to all assistants is 4 annas (a Viraríya fanam), but probably much more is often expected; e.g., the Brahman, if present, gets 4 annas for blessing the táli; the bride's sister expects 4 annas for washing the bridegroom's feet; the barber gets this for singing the epithalamium; the dhoby lends other people's clothes and gets a present, and the *Qarvú* must not fall below this coin. There are many interesting ceremonies during the two or three days of marriage; the arumeikáras are present throughout and perform the binding ceremonies, the village matrons (*sumangalis*) being also important persons; the táli is actually tied by the arumeikári.

A curious ceremony in the early part of the marriage is the visit of the bride to the náttu-kal, where a Pilleiyar is made by the parties of cowdung or mud, blessed, worshipped, and broken up; at this spot the sun and náttu-kal are also worshipped; no Brahman is required in this ceremony. From two recent cases, it is probable that final objections, if any, are made to the marriage at this place.

After the marriage the girl usually lives with her husband or husband's parents, but a rich bride sometimes takes her husband home with her for a year, after which she gets her dowry and departs to her husband's house. On marriage it is usual for a father to allot a separate house or quarters for the couple.

Polygamy is permissible and occasional; strictly speaking, the first wife's consent is necessary to the legality of a second marriage,

and the non-observance of this frequently causes petitions for maintenance in the Magistrate's court. Widows may not remarry, though it is stated that, amongst Okkiliyars and Palaiyáchis, it is allowable. Divorce of a wife is allowable only for adultery, and apparently only by a pattagar's decision; in this case the husband may remarry, but the divorcee may not; she is irrevocably excommunicated, and funeral ceremonies are performed for her while yet alive. This is the strict rule, but probably the offence is often condoned; should the matter become public, however, the punishment follows. A husband can only be divorced for impotence; in this case the woman must refund the *táli*, jewels, and *pariyam* or marriage settlement, and is then at liberty to remarry; it is said, however, that she can never become a *samangali* or matron, and cannot officiate at marriages, wear flowers, or use scents, &c.

Concubinage is not uncommon, and so long as caste prejudices are observed, little or no disgrace attaches to the connection, at least on the man's side; cases of abortion are, however, frequent, and there are "wise women" who earn a vile livelihood by administering drugs and potions to women who consider such offspring as a mark of shame. But concubinage with a woman of inferior caste entails irrevocable excommunication on the man.

Birth.—No special ceremonies are observed; the wife usually goes to her mother's house in the seventh month of her first pregnancy and stays there for her confinement. The new-born infant is washed in cold water, and gets castor-oil, but nothing else, for twenty-four hours; on the ninth or eleventh day, when the mother is purified, the child is named. In its third or fifth year it is usually shaved, either at Palni, the Natturáyan temple (near Vellei-kovil), Sivanmalai, or other special fane; 4 annas are paid to the barber and 4 to the *sámi*; a sheep is also killed and pongal made. Its ears are bored soon after, when 4 annas are paid to the goldsmith for the operation, which is with a gold wire; friends are then invited and *Chariti* collected. If a boy, he begins to go to school at from seven to nine, when the first ceremony is made by the schoolmaster, who writes the alphabet with his stile in milk and gives it to the boy to drink; for this mode of imbibing knowledge, the boy pays 4 annas. But most Goundan boys begin field work at this age.

Death.—No very peculiar ceremonies are observed; a 4-anna piece (*fanam*) is sometimes put into milk which is poured into the deceased's or dying person's mouth. Burning is usual; it is said that the married are burnt and the unmarried buried, but this distinction is doubtful; the only certain distinction is that corpses in epidemic cases are always buried and not burnt (see "Religious" *supra*). Corpses are washed and shaved and new clothes are put on them by their nearest relatives; the funeral torch is carried by the toty and applied by the eldest son, or nearest relation in his absence or default; the widow breaks her *táli* string before the funeral and ties it round the toe of her deceased

husband; henceforth she can only wear white cloths and no jewels. Ceremonies are observed three days after death; milk and ghee are poured over the grave and rice and cakes offered to the manes of the departed; a dinner of his favorite dishes is then prepared and given to the relatives. Anniversary ceremonies are sometimes practised; these include a fast and a feast with morsels for the crows.

Customs of inheritance and adoption are ordinary and are governed by the Mitákshara school; widows, daughters, and sisters do not inherit while there are dayáthias. Inheritance is by "putra bhogam," each son taking equally. A widow is only entitled to subsistence if there are daughters, and to maintenance if she lives apart; if there are no male heirs she inherits.

It is stated that the offspring of concubinage with a woman of the caste are not entitled to property or to be married at their father's expense, nor are they considered as full members of the caste, but only as úliyakáras, and are only allowed to be house servants. But others say that they get a quarter share of the property.

Disputes are of various kinds and are variously settled; ordinary, such as those relating to property, inheritance, boundaries, matrimony, temple contributions, &c., are settled by simple village arbitration; usually by the kottagar in the first instance, and by appeal to a village panchayat, which may be of various castes and regularly includes the monigar, kottagar, and karnam; the regular courts are the last resort. If a ryot refuses to abide by the panchayat decision in matters of village interest (temple subscriptions, &c.), the others will cease to deal with him. Caste matters are settled by caste panchayat, apparently under the direction of the pattagar; in these the castemen of other villages join, and even men of other castes are eligible.

The ordinary panchayat is summoned by the kottagar at the request of the parties. He is also usually the officer who summons caste panchayats, and may do so upon reasonable suspicion or information of a caste offence having been committed; in this case he usually sends a circular by the barber or Ándi to the pattagar and caste people. If the defendant is found guilty, he is excommunicated and deprived of all social intercourse, including, of course, the right to water from the village well, visits from and to caste members, and the privilege of giving alms to the village beggar (modiváñdi). The sentence is communicated by a circular signed by the pattagar and panchayat members.

The following offences, among others, entail excommunication, whether wilful or accidental, viz.: being slipped, eating with a low-caste person, adultery or concubinage with a woman of lower caste on the part of a man, and any adultery, i.e., illicit intrigue by a married woman or fornication by an unmarried woman, especially if pregnancy results. Excommunication for being slipped or for an accidental breach of caste is not irrevocable by a caste panchayat if a fine be

paid and other ceremonies gone through; statements differ as to its irrevocability in wilful cases, but probably it is a question of money or influence; a woman, if excommunicated, can never be re-admitted. The ceremonies of re-admission involve the purification of the house under the directions of the náttár (pattagar), the payment of money, and the drinking of panchakavyam, a sanctifying potion of the five products (curds, milk, ghee, dung, and urine) of the cow. It is to be noticed that the whole household are impure and excommunicated by the offence of its master, and that therefore the house has to be "made good."

IDRIYAR.—These include the Kurumbar of Palladam and Coimbatore taluks; the house language of the Ideiyar, who in this district are not usually called Kon, is Tamil, and that of the Kurumbar Canarese; the latter fact, coupled with the name and the woolly character of the sheep, point to an immigration from above gháts. Regarding the Kurumbar of Mysore, whence they probably descended, the Abbé DuBois remarks that they are not to be confounded with the Ideiyar, who are high-caste Sudras, and that "stupid as a Kurumbar" is a proverb. The small number of Ideiyar in this district is due to the pastoral habits of the Goundans, who are themselves large sheep-owners, every garden ryot usually keeping a pen or manthel of sheep and goats.

KAMMALAR.—These are in nearly normal proportion and are in no way remarkable. They are the principal supporters of the left-hand faction.

KEIKALAR.—These are entered as weavers. In this district persons of the Dási caste, not necessarily immediately sons and daughters of Dásis, but, it may be, descendants, are called Keikalar, such as musicians and attendants at temples. These people also call themselves Muthalis; Bhaváni town affords an example of this. The weavers, also known as Jedar, when they are not Pariahs, are also Keikalar, but have nothing to do with Dásis. All the Dási caste are Keikalar, but all Keikalar are not Dásis.

VANNIYAR.—This major head is not very important in this district. Pallis, who are included amongst Vanniyar, and Pallans must not be confounded as they sometimes are. In this district the former with other Vanniyar style themselves Goundans, and are of similar habits and customs in social and other matters, and live in the kudi-teru or ryots' quarter. The Pallans, on the other hand, are looked down upon, are a wholly different class of men, and live by themselves in the Pallateru or quarter apart from the ryots' houses. The Padaiyáchi, to whose name Palli is sometimes prefixed, was probably a soldier (padai = troops), and it is to be noted that in the times of the Chola kings of Kongu (878 to 1004 A.D.) the soldiers of Kongu were Vettuvar (Vedar?), who, equally with the Padaiyáchis and Pallis, are now called

* According to the Mackenzie MSS., entitled "Kongudera Rájákkal Charitram" (vide Salem Manual).

Goundans, and are probably equally entitled to be called Vanniyar. The Pallan, however, has in all times been a serf, laboring in the low wet lands (pallam ?) for his masters, the Brahmans and Goundans.

UPPILIYAR.—These are pretty numerous, as salt-earth abounds, and earth-salt was, till of late, largely consumed by people and cattle, while large saltpetre contracts were given in the district. Their occupation is now almost gone, but being handy men they have turned to other work ; they are good laborers, excavators, and even bricklayers.

SÁTÁNIS.—These form a larger proportion of the population than is usual. It is to be understood that these are not Sátánis in the strict sense ; as the Census Reports state, Sátánis are, strictly speaking, a sect recruited from various castes, and while professing anti-caste principles, have themselves hardened into a caste. But for census purposes Ándis, who in this district are the pusáris (priests) of the aboriginal temples (Márinimun, &c.), Dásis and their families, other classes of temple servants who are truly a mixed caste, but not in the Sátáni sense of the word, and certain sects of Lángáyats, are entered as Sátánis. Of the Ándis it may be noted that it is these who always perform the rites, whether of invocation, offering, or sacrifice, at the indigenous temples, and that most of the rural classes will drink water or take food from their hands ; hence their employment as cooks in the famine camps and as water distributors at the markets. They have hereditary title to the priesthood, but occasionally faction disputes arise as to the particular Ándi who ought to make pūjah. Such dispute is usually the result, not the cause, of faction, as the right to make pūjah is always undertaken in recognized and customary turns (murei) ; in such disputes the Ándis are merely the tools of factious Goundans who wish to get precedence in the receipt of honors (mariyáthai, *e.g.*, garlands, betel, sacred ash, &c.) at village religious festivals. The Ándis themselves are usually very poor illiterate men of a low type. Many, if not all, are professional beggars ; they are usually paid by contributions from the ryots, such as eight Madras measures of grain per ryot per annum and four annas per pen or fold. They are subservient to the ryots and are wholly dependent on them. The modivándis are a special begging class ; they are descended from Vellála Goundans, since they had the immemorial privilege of taking possession, as of right, of any Vellála child that was infirm or maimed. The modivándi made his claim by spitting in the child's face, and the parents were then obliged, even against their will, to give it up ; thenceforward it was a modivándi and married amongst them. The custom has, of course, fallen into desuetude for the last forty or fifty years, as a complaint of abduction would entail serious consequences. Their special village is Modivándi Satyamangalam near Erode. The chief modivándis recently applied for sanction to employ peons with belts and badges upon their begging tours, probably because contributions are less willingly made now-a-days to idle men. They claim to be entitled to sheep and grain from the ryots, but it is a question whether their demands are fully responded to.

SHANAR.—These are fairly numerous owing to the abundance of the palmyra in some parts; they are sometimes cultivators and traders, but usually toddy-drawers.

OTHERS.—Amongst "others" are included Wudders and Vaniyar. The former are numerous owing to the hard nature of the sub-soil and the immense and increasing number of irrigation wells, which demand the labor of strong men accustomed to the use of the crowbar, pick-axe and powder. These people of both sexes labor from extreme youth to old age; are black, strong, and of good physique, highly paid, and live on strong meat and drink. They are the "navvies" of the district, and if engaged on contract will well repay the extra price of their labor. Their number, 47,784, is far greater than in any other district, Cuddapah alone having above 40,000. They have, however, slightly diminished since 1871.

VANIYAR (oil-mongers) number only 7,803.

VEDAR.—These are, now at all events, quite distinct from the Vettuvur, and are a very degraded, poor tribe, living by basket-making, snaring small game, and so on. They speak a low Canarese, and are as simple as savage; the delight of a party at the gift of a rupee is something curious.

PARIAHS.—These are less numerous than is usual. Very little is known of this interesting race, who are by no means deserving of the character sometimes given them. They are called out-caste or non-caste; however recruited, they form a complete society among themselves, with class rules, quasi-priests (Valluvur) and gurus. They are by no means deficient in intelligence, and show considerable adaptability; their social advancement has never yet been undertaken, and it is unfair to charge them altogether with what is often the result, not the cause, of social disesteem. The Valluvur are a peculiar class; they are known as pandarams, are astrologers, and both males and females wear the thread. They claim, of course, to be the descendants of Tiru-valluvur. Their guru is Sarangadesikaswami, who is a strict Vira-saiva (Kannadi Lingayat) living at Kumbakonam. It is said that Valluva widows may remarry, and that a woman may divorce her husband and take another, who must, however, repay the expenses of the first marriage. They are not beef-eaters, and observe the usual anniversaries. Pariah widows may not remarry. The Pariahs of this district readily go to the Nilgiri estates, where they amass decent sums. In the Census Report 130,386 Madigas, i.e., Chucklers (Sakkiliyar), have been included amongst Pariahs; this is certainly incorrect, as the two classes are wholly distinct; e.g., it is said that a Pariah may not bathe in his own well, and that if he did, the Chucklers would not make or mend his leather buckets; the latter espouse the left and the Pariahs the right hand faction. The Pallars are also included, which is equally incorrect; they are quite distinct and invariably live in a separate quarter (Palla-teru) of the village by themselves. The Pallar is a stout, shortish, black man, sturdy, a

meat-eater, and not over clean in person or habit; completely uneducated, but very industrious in his favorite wet lands. He can hold his own in these days of freedom and competition, and, if the season is adverse, entailing extra work in baling, will demand and obtain a larger share of the crop than custom usually permits. He is no longer a serf.

HILL TRIBES.—These are Malasar, Kádar, Muduvár, Puliyar in the Ánaimalais, Malasar and Irular in Coimbatore, Irular and Sholagar in North Satyamangalam, Kollegál and Bhaváni. Kurambar are also found in the north of the district and on the lower Nílگیرi slopes.

In addition to the remarks which will be found under "Hill Ranges," the following statement in 1871 of Mr. Wedderburn, lately Collector of the district, may be recorded:—

"The hill tribes * number 150 in Kollegál taluk, 266 in Udamalpet, and 549 in Polláchi taluk. Those who inhabit the Ánaimalai hills are called Kádars. Malasars live in the low jungles of Polláchi and Udamalpet taluks and in Bolamjatti jungles. Those who live in the jungles of Kollegál taluk are called Sholagars. The hill tribes of Udamalpet and Polláchi are employed by landholders as agricultural laborers; some, chiefly Kádars, are employed partly by the Forest Department and partly by merchants to collect forest products, which they barter for grain. They also cultivate for themselves patches on the hills with ragi, which they supplement as a food supply with roots, vegetables, &c., found on the hills."

The following remarks on the Sholagar, Irular, and Kádar are condensed from Buchanan (1800 A.D.), who, on these matters, wrote chiefly from hearsay and not from observation.

"The Sholagars of Kollegál cultivate ragi and pulses with the hoe (kottu-kádu cultivation), and also coarse plantains; they speak a dialect of Canarese, have scarcely any clothing, and live in wretched huts built of bent bamboo covered with plantain leaves; they have not the art of killing game, but would eat meat if they could get it; know nothing of intoxicating liquor, and live on ragi, pulses, wild yams, and forest produce. They live under and obey hereditary chiefs and practise polygamy; the marriage ceremony is an elopement, followed after the honeymoon by a feast; widow remarriage is allowed; adultery is unknown, and due reverence is paid to aged parents, after whose death annual ceremonies must be performed. The tribal god is Rungaswámi.

"The Irular (Erilgáru) have small neat huts of wattle and daub, keep cattle and fowls, snare game and cultivate plantains, ragi, &c., with the hoe. They also cut timber and bamboo for the people of the low country. Their persons are miserable and clothing very scanty. Their language is a dialect of Canarese. Popular legend asserts that while searching for food in the forest they entrust their children to tigers, which they have the power of charming.

"The Kádars of the Ánaimalais live by collecting drugs for the renter, while the women collect roots; they have no cattle and do not cultivate, nor can they kill game, but eat what they find dead; liquor is unknown. Their

* The numbers are defective, as those of Coimbatore, Satyamangalam, and Bhaváni are not mentioned.

god is Mudiviren, who rules a heaven where good men go; the wicked go to a hell. Bey-kottu-anman and Káliamman are their female deities; Corabun (? Kurumbar), who also live on the hills, are their gurus.*

LANGUAGE.

The principal languages are Tamil, Telugu and Canarese, which are spoken by 1,087,278 (65·59 per cent.), 344,497 (20·78 per cent.), and 201,865 (12·18 per cent.) persons respectively. Tamil is the officially recognized language of the district generally, but Canarese is recognized for Kollegal and the northern part of Bhaváni. Telugu has no local status, but is the house language of particular castes, such as Telugu Brahmans, Reddis, Kómatas, Kavareis, and Vadugars generally, besides Wudders and Dombars; these all speak Tamil also. Hindustani is spoken by the Muhammadans numbering 37,855; English, French, Arabic, and other languages are but slightly represented. The Tamil is fairly pure, and has but a moderate number of local peculiarities.

OCCUPATIONS.

A table in the Appendix distributes the people by occupations and taluks; a second is an extract from the license tax returns, and gives some idea of the more important trades of the district. The percentages to population under each class with that of the unoccupied class are as follows :—

Class.		Percentage on total population.		Percentage on working population.	
		Coimbatore.	Presidency.	Coimbatore.	Presidency.
Occupied	I. Professional	1·12	1·50	1·60	2·76
	II. Domestic	0·87	0·72	1·47	1·28
	III. Commercial	0·78	1·40	1·32	2·67
	IV. Agricultural	37·97	35·46	64·36	66·21
	V. Industrial	16·20	10·95	25·73	20·81
	VI. Indefinite and non-productive	3·12	4·34	5·28	8·00
Unoccupied	Unoccupied	40·94	45·69	..	..
Total ..		100	100	100	100

It will be noticed that the unoccupied class, chiefly children and old persons, show a percentage (40·94) considerably below the presidency average (45·69); that of workers, the agricultural class, is slightly below, and the industrial class considerably above, the average; 67·41 per cent. of the males and 51·13 per cent. of the females are workers. Nearly every person in Coimbatore of the working age is a worker.

* More modern information will be found under " Hill Ranges."

Assuming (*vide* paragraph 494, Census Report) that the ordinary working age is between 12 and 60 years of age, males between those ages number 63 per cent. of the total males; this percentage is 4·41 per cent. less than the actual working percentage of 67·4 per cent. Hence it is evident that the males begin work before 12 and probably continue after 60. As a matter of fact children in Coimbatore below 12 do light tasks in herding cattle and sheep, sowing birds, &c., while in weaving they are employed in preparing the warp and similar easy labor. Similarly with regard to females; exclusive of those wives whose "occupation" is that of wives, no less than 51·13 per cent. of the total females are occupied, 62·25 per cent. being the proportion between 12 and 60, and the presidency working average being 41·90. This is due to the large number of women employed as agricultural laborers as well as in weaving cotton and woollen goods, in earthwork (Wudders, &c.), and so forth. Nine-tenths of the excess of "occupied" in Coimbatore over the presidency average is due to the excess under females.

The following table distributes the population according to occupations:—

Class.	Order.	Sub-Order.	Title.	1881.	
				Males.	Females.
I	1	1	Officers of National Government	1,946	5
		2	Do. of Local do.	5,341	125
		3	Do. of Independent Government Native States	6	..
	2	1	Army	66	4
		2	Navy	1	325
	3	1	Clergymen, Ministers, and Church Officers	4,564	..
		2	Lawyers and Law Stationers	206	..
		3	Physicians, Surgeons and Druggists	899	81
		4	Authors and Literary Persons	312	45
		5	Artists .. ..	..	..
		6	Musicians	1,423	56
		7	Actors	470	1,130
		8	Teachers	1,509	49
	4	1	Scientific Persons	259	2
		2	.....	..	55
II	5	1	Engaged in Boarding and Lodging	204	88
		2	Attendants (Domestic Servants)	5,043	5,018
III	6	1	Mercantile men	2,316	587
		2	Other General Dealers	2,073	1,755
	7	1	Carriers on Railways	878	43
		2	Do. on Roads	3,206	89
		3	Do. on Canals and Rivers	110	..
		4	Do. on Seas and Rivers	1	..
IV	8	5	Engaged in Storage	174	18
		6	Messengers and Porters	1,013	655
		1	Agriculturists	340,876	265,410
		2	Arboriculturists	7	..
V	9	3	Horticulturists	1,325	241
		1	Persons engaged about Animals	4,355	8,280
	10	1	Workers in Books	70	..
		2	Do. in Musical Instruments	15	41
		3	Do. in Prints and Pictures .. ..	..	..
	4	4	Do. in Carving and Figures	5	..

Class.	Order.	Sub-Order.	Title.	1861.	
				Males.	Females.
V	19	5	Workers in Tackle for Sports and Games ..	7	..
		6	Do. in Designs, Medals and Dice ..	..	..
		7	Do. in Watches and Philosophical Instruments ..	2	..
		8	Do. in Surgical Instruments ..	..	..
		9	Do. in Arms ..	4	..
		10	Do. in Machines and Tools ..	99	..
		11	Do. in Carriages ..	8	..
		12	Do. in Harness ..	8	..
		13	Do. in Ships ..	2	..
		14	Do. in Houses and Buildings ..	5,608	590
		15	Do. in Furniture ..	10	6
		16	Combined with Sub-Orders 10 and 11 ..	1,131	..
		17	Workers in Chemicals ..	1,131	692
	11	1	Do. in Wool and Worsted ..	87	707
		2	Do. in Silk ..	123	16
		3	Do. in Cotton and Flax ..	21,461	29,531
		4	Do. in Mixed Materials ..	..	..
		5	Do. in Dress ..	24,698	7,805
		6	Do. in Hemp and other Fibrous Materials ..	1,025	1,249
	12	1	Do. in Animal Food ..	1,159	1,499
		2	Do. in Vegetable Food ..	8,752	18,449
	2	1	Dealers in Food and Drink ..	13,765	7,096
		2	Workers in Gums, Gut, Bones, Horn, Ivory and Whalebone ..	107	135
	14	2	Do. in Skins, Feathers and Quills ..	18,774	2,351
		2	Do. in Hair ..	..	..
		3	Do. in Gums and Resins ..	1,450	1,256
		2	Do. in Wood ..	2,700	3,371
		3	Do. in Bark ..	321	2,280
	15	4	Do. in Cane, Rush and Straw ..	3,641	6,877
		5	Do. in Paper ..	3	..
		1	Miners ..	..	..
		2	Workers in Coal ..	..	..
		3	Do. in Stone and Clay ..	16,360	14,896
		4	Do. in Earthenware ..	5,265	2,955
		5	Do. in Glass ..	37	..
		6	Do. in Salt ..	1,914	1,497
		7	Do. in Water ..	735	243
		8	Do. in Gold, Silver, and Precious Stones ..	3,990	198
		9	Do. in Copper ..	39	1
		10	Do. in Tin and Quicksilver ..	14	..
		11	Do. in Zinc ..	..	..
		12	Do. in Lead and Antimony ..	28	18
		13	Do. in Brass and other mixed Metals ..	510	63
		14	Do. in Iron and Steel ..	2,675	391
VI	16	1	General Laborers ..	15,163	30,427
		2	Persons of Indefinite Occupation ..	2,635	1,347
	17	1	Persons of independent Means ..	82	391
	18	1	Persons having "No Occupation" ..	262,885	415,331

The next table is a convenient abstract of the above :—

Class.	Order.	Sub-Order.	Title.	1881. Males.	Percentage to total males, 805,363.	Percentage to total working males, 343,892.	1881. Females.	Percentage to total females, 869,891.	Percentage to total working females, 443,019.	Percentage of male and female to total population, 1,677,999.	Percentage of male and female to total working population, 978,911.
I	1	1-3	Persons engaged in the general and local government of the country.	7,292	9	1-34	150	91	93	44	75
	2	1-3	Do. in defence of the country.	67	008	01	329	93	97	12	64
	3	1-3	Do. in learned professions or in literature, art and science (with their immediate subordinates).	9,402	1-16	1-75	1,371	16	31	64	1-1
II	4	1-3	Persons engaged in entertaining and pursuing personal offices for man.	5,247	65	96	9,161	1-97	2-1	88	1-47
	5	1-3	Persons who buy or sell, keep or lend money, houses or goods of various kinds.	4,389	54	8	2,342	27	53	4	98
IV	7	1-6	Persons engaged in the conveyance of men, animals, goods and messages.	5,380	66	68	832	69	119	37	63
	8	1-3	Persons possessing or working the land and engaged in growing grain, fruits, grasses, animals and other products.	361,209	43-5	94-5	255,691	31-22	61-06	37-3	63-01
	9	1	Persons engaged about animals.	4,365	54	71	8,389	97	1-9	76	1-29
V	10	1-17	Do. in art and mechanical productions.	7,667	9	1-3	1,329	16	30	93	9
	11	1-6	Persons working and dealing in the textile fabrics and in dress.	47,364	5-8	8-7	49,307	6-7	11-3	5-8	9-8
	12	1-3	Do. and dealing in food and drinks.	23,678	2-9	4-3	27,043	3-1	6-2	3-65	6-1
VI	13	1-3	Do. and dealing in animal substances.	18,881	2-3	3-4	2,496	2	5	1-2	2-1
	14	1-3	Do. and dealing in vegetable substances.	8,421	1-04	1-6	14,784	1-7	3-3	1-9	2-3
	15	1-14	Do. and dealing in minerals.	31,414	3-8	5-7	20,291	2-3	4-6	3-1	5-9
	16	1-2	Laborers and others (branch of labor undivided).	19,818	2-4	3-6	31,844	3-7	7-3	3-1	5-2
	17, 18	..	Persons having "no occupation"	202,907	22-8	48-3	415,722	46-8	95-4	40-9	69-1

The former table is given in detail to show the nature of the industries in a Madras district; see also final table XII, Census Report, Vol. II, which must be read with this table for full details of actual occupations. A good deal of explanation is, however, needed.

Class I, order I; see "Departments." As all Magistrates in this order are also Government servants, some confusion has arisen; only one Magistrate is entered, whereas there are numerous stipendiary Magistrates of all grades who are included under Government servants.

Order II, the army, is represented by pensioners.

Order III, sub-order 1, includes the church officers of all religions. Sub-order 3 contains 49 "chemists and druggists;" these are merely the shops where common bazaar drugs, both mineral and vegetable, are procurable, commonly called "palasarakku-kadai," or miscellaneous stores. Male accoucheurs, except the officers trained in European science, are unknown. There are 515 Vaithiyars or native physicians; only a few of these are of any repute as skilful; the others are rustic leeches. Sub-order 8: as a rule, there is no distinction between the 390 "schoolmasters" and 623 "teachers," professors and lecturers of the Western species being unknown; a few shāstris and pandits must, however, be distinguished from the ordinary class of teacher. It is not known who are intended by the 259 scientific males and 9 scientific females in sub-order 9; probably these are also persons learned in the shāstras, and the 9 females are wives.

Class II, order V, sub-order 2: domestic servants of all sorts number only 5,043, an illustration of the poor and primitive condition of society, where most families cannot afford servants, and even in the best families much of the house work, including the cooking, is done by the ladies. The Census Report remarks will be perused with interest.

Class III, order VI, sub-order 1: there are 1,736 "merchants;" these include the wholesale dealers in produce, who gather it from the brokers and ryots and export it, selling in return cloths and the produce of other districts; also the money lenders or soukars. There are two native banks; the Life Assurance Agent does not appear in the return, though located in Coimbatore town. Market lessees are understated at 3, as there are several in each taluk.

Order VII, sub-order 2: the 298 "cab-owners, cabmen, and livery stable keepers" are evidently the proprietors of the several bullock transit lines (*vide* Taluk Notices) and of the bullock carts and jukas which ply for hire at railway stations. The "carters and draymen" are those who keep carts for hire, not those who own carts as part of their agricultural stock. Sub-order 3 comprises the owners and workers of the coracles, large and small, which are used at the river ferries; occasionally these transport passengers and goods, especially green manures, by river and channel.

Class IV, order VIII, sub-order 1: the names of the various occupations, adopted apparently from the English tables, have caused much

confusion. The collocation of the words "proprietor, landlord, farmer, permanent lease-holder and farm bailiff," with their position *before* the words puttahdar, ryot, shows that the "landlord, &c." in the English sense, viz., squire or nobleman, or in South India parlance, zemindar, muttahdar, or poligar, was intended. But as ryots in Coimbatore justly regard themselves as practically proprietors¹⁰ (strictly co-proprietors with the State), since they have often held from time immemorial, are holders indefeasibly, subject only to the payment of the State share, and can alienate their occupancy right at pleasure and without the consent of the State, no less than 134,400 have entered themselves as "proprietors," whereas there are, speaking in the English sense, only 12 "landlords," viz., the poligars, *plus* an unknown but not large number of inamdars, whose rights extend to the land and not merely to the receipt of certain sums of money. On the other hand, only 15,731 have entered themselves as "puttahdars and ryots" and 30,904 under the very vague heading of "agriculturists." Now the actual number of Government puttahs in Fasli 1291 (1881-82) was 196,068, and though many were held by single individuals, these were more than balanced by the joint puttahs, which numbered 105,319, each containing from 1 to 20 persons, so that there were, including women and children, 442,117 ryot proprietors. Hence, to arrive at the true total of "ryots," the entry under "proprietors" must be added to those under "ryots and agriculturists," which, with the similar entries under females, make up a census total of 268,893; the difference between this and the larger numbers is made up of children, &c. who were not separately enumerated in the census as proprietors, but are frequently so entered in puttahs. No "landlords" are entered, though the poligars at all events are landlords. "Tenants" at 24,320 are much understated, but many of this class are also puttahdars and appear therefore under other names. The 753 "land agents" are myths; there are a few agents who practise under Act VIII of 1865, but of land and estate agents none; possibly these are the various revenue amins who occasionally serve Government processes in the collection of the land revenue. Sub-order 3: "Horticulturists" proper there are none; there are above 50,000 gardens so called, that is, fields where wells are used to grow both ordinary cereal and more valuable crops, but these are not gardens other than in the sense of market gardens, and the ryots are ordinary ryots who appear under sub-order 1. Coconut and batel nut tape gardeners are far too few at 22, as there are hundreds near Coimbatore alone; these also probably appear as ryots or proprietors.

Class V, order X, sub-order 1, &c.: the "printers," with the exception of those in two small private presses in Coimbatore, are the men employed in the Government district press. There are several "book agents," but as these are schoolmasters, they appear under that

¹⁰ Cf. Board's Proceedings, No. 3429a, dated 19th December 1878, pages 141 and 146.

head; vernacular books are sold by general dealers. The entries under the other sub-orders are few, and the fact is illustrative of the backward state of an average district in matters of civilisation; music, art, the mechanical and technical arts and industries, house architecture, house comforts and luxuries, physical and mental recreations, can have made but little progress where the list of persons ministering to such wants or carrying on such professions and trades is so limited. Moreover there is a good deal of explanation and correction needed in the list, meagre as it is. The "musical instruments" are the common drum, bag-pipe, horn and vina (lute); "wood carving" has attained no excellence, and is almost confined to joining and cabinet work; the "gun smiths" manufacture only the rudest matchlock weapons; 96 "spinning, weaving, and agricultural machine makers" can only be the smiths who make mamoties (hoes) and ploughs, and the simple looms of the country; other machines or implements there are none. The 874 "manufacturing chemists" would seem to show a splendid condition of the various technical arts, but they are wholly mythical, and enquiry has failed to explain the entry; the simple dyes required in the weaving trade are prepared by the weavers themselves, except as regards the aniline dyes now coming into use; "there is no such thing as a manufacturing chemist or trade of the sort. "Match makers" do not really exist in the district. Another illustration of Indian life is afforded by the small number (16 males and females) of "house proprietors" (sub-order 14), in the sense of owner for the purpose of dealing in houses. Almost every one except in the towns, and there also very generally, lives in his own and not in a hired house, and house owning is therefore seldom practised as a business. On the other hand there are "gunpowder makers" who are not entered, country gunpowder being largely used in blasting and fireworks, and "cart builders" are much understated at 6, as there are many more than that in Erode taluk alone.

Order XI, sub-order 5: the 5,180 "hair-dressers" are the ordinary barbers, whose stock in trade is a fragment of looking-glass, a couple of razors and pair of tweezers and ear-picks, and whose shop is a small shed or shady tree; the 11,345 "shoemakers" are, with one or two exceptions, the Chucklers, who deal in hides or leather and make the ordinary sandals, while the 7,629 "laundry keepers" are the dhobies, whose usual laundry is the bed of a stream or tank, and whose apparatus is a flat stone and boiling utensils in the simple shape of large chatties.

Order XII, sub-order 2: the *nil* entry under "sugar-refiner" is because those who make sugar, also and more largely make jaggery, and therefore appear under that head; fair brown sugar is both made and sold. Sub-order 3: the 1,204 "tobaccoenists" are probably growers, and therefore curers, of tobacco; every miscellaneous shop sells tobacco and snuff, but shops solely devoted to tobacco are unknown.

" Tahsildars and others have enquired without success as to the persons who have thus entered themselves.

Order XIII, sub-order 1: as pointed out in the Census Report, the 14 "manure manufacturers" are exactly the reverse, viz., those who convert manure into fuel (bratties) by admixture with chaff. Messrs. Stanes and Co. deal in bone and other manures, but appear under another head. Sub-order 2: the "tanners" are understated at 86 if ordinary Chucklers are included, and overstated if only regular tanneries are understood, such as those in Coimbatore and Pullapatti, unless, as is probable, various members of the firm and probably their families are included. The 203 "leather case and bag manufacturers" are probably the makers of the leathern buckets used for the wells; but as every Chuckler does this the entry is unintelligible.

Order XIV, sub-order 1: "linseed oil and cake" are not made in this district; the entry is probably an error for gingely. The "pitch distillers" are probably those who get dammer from the forest trees, frequently by the application of heat. Sub-order 2: "charcoal burners" are much understated at 9; they may be numbered by hundreds, but probably appear under other heads. Sub-order 3: the "workers in bark" are those who collect white acacia bark for the distiller, or cassia bark for the tanner. The "leaf stitchers" are those who supply leaf plates for use at meals. Sub-order 5: paper manufacture was said in 1881 to have ceased, and is certainly not now carried on; it was only a petty hand manufacture of coarse country paper, produced by beating up old gunny and old paper.

Order XV, sub-order 4: the "manufacturers of earthenware" are the village potters who can make merely the common porous chatty for holding water or grain. Sub-order 5: the entry of 31 under "glass manufacture" is an error; there are not even bangle makers, and certainly no glass makers; probably the entries relate to bangle dealers, as this item is blank for the district, whereas there are a good many dealers, as may be seen at every weekly market; in Erode town alone there are one or two families of this class, and these are evidently the "glass makers" of Erode. Sub-order 8: there are several families of lapidaries near Tirupūr, who make spectacles and images from quartz crystals and a species of green jade (?); these probably appear under "stone workers;" there are no other lapidaries. Sub-order 10: there are no "tin manufacturers," i.e., workers in pure tin; this is probably a mistake for tin-plate workers.

Order XVII, sub-order 1: the absence of a leisured and monied class to which is attributable so much of Western civilisation, whether in its direct contributions to progress or in the efforts made by business men to obtain the coveted position, is very conspicuous in this sub-order; there are very few persons living an independent life on their accumulated means.

Those returned as of "No occupation" have been noted above.

Females.—The remarks as to males generally apply to females also, but it is difficult to know who the "female Law Court officer" is or

the three "Police officers, or the 325 persons belonging to the navy." The impossible entry of 9 Hindu and Muhammadan "priestesses" is evidently an error of enumeration, probably due to the "ditto" entry in the schedules; they are no doubt the wives of priests.

The nuns of the Coimbatore convent do not find a place in sub-order 2.

"Midwives" are entered as only 29, but this is a mistake; as barber females generally are midwives.

Under class II, order IV, it was intended that wives should have been entered, but this has not been understood by the enumerators, so that the heads are practically blank. Female carpenters are rare if not unknown, and the 292 are probably the result of the "ditto" entry of the schedules under the husbands' "occupation" entry; so also the blacksmiths. The female "hair-dressers" are probably those who perform the usual and painful depilatory operations for women.

The entry of 2,195 "distillers" as against 44 males is unintelligible and erroneous; there are no such persons; there is of course only one distillery in the district. A large number of women are engaged in coffee curing at Messrs. Stanes, but probably appear as laborers. The small number of persons (74 females and 14 males) engaged in making bratties (dung fuel cakes) as a business is gratifying.

For details of the town population, see Table XII and Vol. II, Census Report.

For details of some occupations, see "Industries." A few remarks will be found in the economic section regarding the occupations of this district.

CIVIL CONDITION.

The following table gives the conjugal condition of each sex:—

	Single.		Married.		Widowed.		Total.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
<i>Coimbatore.</i>								
Actual number	447,001	339,658	327,659	342,463	39,073	166,629	896,859	850,831
Number per 100	55.55	40.02	40.71	46.33	3.74	19.63	..	..
<i>Presidency.</i>								
Number per 100	54.71	36.42	41.46	42.32	3.83	21.26	..	..
Number calculated at presidency average ..	440,371	309,136	333,729	359,194	30,826	156,434	800,859	850,831

From the above it is seen that the people, especially females, marry later than is usual in the presidency, the single being principally those below the usual marriage age. As might consequently be expected, the number of widowed, especially female, is well below the average. This would be even less but that the Vellála widows do not remarry, while concubinage with caste people is not considered absolutely immoral. It is further seen that the population is nearly monogamous, the number of married males being but slightly below that of females; 14,745 or

4·5 of the married males have two wives. The Vellála custom is only to take one wife, but if she is barren, or another field hand is wanted, there is no objection to a second wife if the consent of the first be obtained.

The age of marriage and widowhood is further illustrated by the following comparative table of ages:—

Ages	Single.				Married.	
	Males.		Females.		Males.	
	Number.	Percent- age of total males.	Number.	Percent- age of total females.	Number.	Percent- age of total males.
0—10	215,572	26·78	223,174	26·41	931	·11
10—15	106,073	13·18	83,595	9·84	2,662	·25
15—20	63,461	7·89	24,443	2·83	9,806	1·22
20—25	33,003	4·1	4,346	·51	27,328	3·3
25—30	17,076	2·12	1,359	·16	51,176	6·2
30—40	8,738	1·08	1,352	·16	107,494	13·4
40—50	1,912	·23	700	·08	68,602	8·5
50—60	754	·08	349	·04	37,572	4·6
Above 60	453	·05	299	·03	22,508	2·7
Not stated	49	·006	41	·004	23	·002
Total ..	447,091	55·54	339,658	40·03	317,692	40·71

Ages.	Married—(Contd.).		Widowed.			
	Females.		Males.		Females.	
	Number.	Percent- age of total females.	Number.	Percent- age of total males.	Number.	Percent- age of total females.
0—10	3,157	·37	23	·004	196	·02
10—15	15,432	1·8	56	·006	754	·08
15—20	38,813	4·59	238	·02	2,050	·21
20—25	67,120	7·99	764	·09	6,178	·72
25—30	69,212	8·15	1,850	·23	10,852	1·29
30—40	87,665	1·03	5,709	·709	34,499	4·08
40—50	40,694	4·81	6,658	·82	11,947	1·46
50—60	15,408	1·81	6,566	·81	35,813	4·24
Above 60	4,872	·57	5,187	1·01	34,225	4·03
Not stated	30	·003	6	·	25	·002
Total ..	342,403	40·34	30,673	3·73	169,639	19·63

It is evident by this that the general marrying age for males is above 20, and that for females it practically begins after 10, probably at puberty, or say 13, but is rare before 15; those marriages below 15 for males and 10 for females may be safely put down as all Brahmans, and perhaps Komati Shettis. Owing to the large Vellála population, in which girls only marry at or after puberty, and the sons when capable of earning a livelihood, the marriage ages fairly correspond with the ages respectively of 20 and 25 in England. The disproportion between the sexes under the head of widowed, suggests (1) that widowers often

marry again, which is certainly true, thus preventing many bachelors from marrying early, and that widows do not remarry; (2) that widows are longer lived than the widowers, as may be judged from the numbers above 50 years of age, where it may be presumed that the paucity of widowers is not due to remarriage but to death.

Looking to the precocity of Hindu life, it may be fairly said that Brahmans apart, marriage is comparatively speaking not *very* early in Coimbatore.

EDUCATION.

In 1881 there were educated or under instruction 89,909, viz. 83,202 males and 6,707 females; the percentages, 10·31 and 0·79, are below those for the presidency, viz., 13·77 and 0·87. The numbers altogether have increased by 26,696 or 42·23 per cent. upon those recorded in 1871, and there are "thirty times as many females educated now as in 1871," when only 226 were educated, most of whom were Europeans, Eurasians, and dancing girls; practically no Hindu females except dancing girls were educated in 1871.

The following table gives particulars:—

1881.	Sex.	Popula- tion.	Under instruction.		Instructed.		Illiterate.	
			Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Hindus ..	Males ..	782,016	19,848	2·51	56,604	7·23	705,864	90·26
	Females.	824,327	1,208	0·15	4,415	0·53	818,704	99·32
Muhammadians.	Males ..	18,314	1,348	7·40	3,875	21·27	12,991	71·33
	Females.	19,641	22	0·47	184	0·94	19,365	98·59
Christians ..	Males ..	6,520	634	9·72	1,131	17·35	4,785	72·93
	Females.	6,806	266	5·23	449	6·6	6,001	88·17
Others ..	Males ..	109	10	9·17	82	47·71	47	43·12
	Females.	57	1	1·75	2	3·51	54	94·74
Total ..	Males ..	806,859	21,640	2·68	61,662	7·63	723,557	89·69
	Females.	850,831	1,867	0·2	5,060	0·59	844,124	99·21
1881.	Sex.	Total of both sexes.						
		Total number.	Under instruction.		Instructed.		Illiterate.	
			Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Hindus ..	Males ..	1,606,343	20,656	1·3	60,919	3·79	1,524,568	94·91
	Females.							
Muhammadians.	Males ..	37,856	1,446	3·81	4,059	10·72	32,356	85·47
	Females.							
Christians ..	Males ..	13,326	900	7·43	1,580	11·86	10,766	80·71
	Females.							
Others ..	Males ..	166	11	6·53	54	32·83	101	60·84
	Females.							
Total ..	Males ..	1,657,600	23,297	1·41	66,612	4·02	1,567,761	94·58
	Females.							

Fifteen thousand two hundred and sixty-three did not state their educational condition, and have been entered with "illiterate," since, if educated, they would not have omitted the fact.

The percentage under Christians is somewhat unduly high owing to the inclusion of Europeans and Eurasians, who in 1881 had not been separately tabulated; in 1871 the tabulation was as follows:—

	Total.	Able to read and write.	Percentage.
Europeans and Eurasians ..	624	269	43.0
Native Christians	11,449	651	5.7

The former table affords a very instructive study. The total result is approximately shown in abstract as follows:—

Religion.	Instructed and under instruction.	
	1871.	1881.
Hindus	1 in 30	1 in 20
Mahammedans	1 in 11	1 in 7
Christians	1 in 13	1 in 8
Others	1 in 11	1 in 8

The comparative percentage of Christian females "under instruction" and "instructed" is noteworthy, while the ratio of those "under instruction" to "instructed" shows that considerable progress is now being made amongst this class.

The percentage of both sexes and all religions, including those under instruction, is 5.42 as against 3.6 in 1871.

The figures given above point unmistakably to the absolute necessity of immediate and vigorous effort in the matter of education. Even these numbers give too cheerful a view, since the amount of instruction possessed by the bulk of the "instructed" is but of the slightest and most meagre description; it is not worthy of the name of education, many persons being merely able to sign their names, or to scrawl with immense difficulty an almost illegible page, while they are all but innocent of the simplest arithmetic; other education they do not possess in the smallest degree, especially that which would enable them to form a sound judgment in their ordinary affairs, or that technical education which would give them fresh ideas in their industries. Good wholesome vernacular literature does not exist for them even if they can really read, and their best works are hidden in (to them) unintelligible poetry. The educationist and Local Boards have much to do for generations.

The following table gives the ratio of schools and scholars to area and population in 1881 :—

Surveyed area in square miles.	Population.	Number of schools.	Square miles per school.	Population per school.	Pupils.			Ratio of pupils to population.	Ratio of male pupils to male population.	Ratio of female pupils to female population.
					Male.	Female.	Total.			
6,432	1,657,690	1,184	5.4	1,400	21,640	1,657	23,297	1 in 71	1 in 37	1 in 513

The area excludes hills and forests, which contain only a few wild tribes. The non-inspected pial schools are included in the figures.

The population of a school-going age, say 5 to 15, was in 1881 something above 205,181 males and 216,670 females; the number actually under instruction was 21,640 and 1,657 respectively, or 10.55 and 0.76 per cent., or nearly 1 in 10 and 1 in 131. The Coimbatore ratio of male pupils to population for all towns of the district is the second highest in the presidency, viz., 5.754; *vide* report on elementary education in G.O., 399 of 7th December 1881. This report further remarks : " It is a very noteworthy fact, and one that cannot be ignored or explained away, that the districts whose towns in the aggregate have more than 5 per cent. of their population under instruction, are districts the education of whose town population has been mainly left to private effort. In the town of Coimbatore, where Government have never established a school, there are probably at least 4 boys in every 5 reading in schools, probably more. In Coimbatore the higher schools are all more or less of a missionary character." The contrast of this with the educational condition of the whole district is very marked; rural schools are small and sparse, except along the Cauvery valley and in a few special localities.

The census of 1881 does not show education according to castes, but in 1883-84 the chief Coimbatore town schools had pupils as follows. Eurasians are omitted as they have separate schools. For information as to education generally, see section on that subject.

DISEASES, INFIRMITIES, ACCIDENTS, &c.

In the Appendix will be found a statement based upon the returns from the various dispensaries for a series of years; except with regard to difficult labours, cholera, and small-pox, cases of which seldom come to the hospitals, it may be roundly stated that this return shows the district diseases, except Guinea-worm, with considerable accuracy, since there is in each taluk at least one dispensary, which is largely resorted to from all parts. Certain diseases, such as ulcer, show with undue prominence owing to the effect of the famine in 1877-78, and even in 1879; ulcer is always rife owing to a bad state of blood amongst many classes, but after the famine it was fearfully prevalent. Malarious fever showed very high in 1878 and 1879, this being probably one of the famine sequelæ due to the abundant rainfall amidst enfeebled people. The table shows that malarious fever (16·34), ophthalmia chiefly conjunctivitis (9·94), ulcers (9·73), skin diseases (6·63), boils and abscesses (5·37), and rheumatic affections (4·31), are, in the order named, the most prevalent diseases. Both the venereal diseases are tolerably common, but seemingly less so than in many other districts. Guinea-worm (*dracunculus*) is terribly prevalent, but is mostly treated by the people themselves, since nothing but patience and the application of simples for a considerable period can help the sufferer, so that hospital treatment is useless; stimulating poultices are usually applied. Its prevalence is due probably to the abundance of step-wells, and their use for all purposes.

Cholera has long been known in the district and is mentioned in early reports; small-pox has always been prevalent, and to this must be attributed very many of the cases of blindness observable (2,963), as well as other infirmities; small-pox is the usual answer to inquiries as to the cause of blindness, and indeed the scarred face too often tells its own tale. Small-pox deaths and outbreaks are very badly reported; to judge by the records of deaths and by village reports it is rare, but, in spite of vaccination, it is only necessary even now to go into a village school and count the children under fourteen years old whose faces bear the marks, to know beyond all cavil that it is still common, and that vaccinators' work is either ineffective, too late, or too scanty; vaccination registers are not a sufficient test of protection, and the most rigid care in, and scrutiny over, the work can alone give true and general protection. To say that 5 out of every 20 school-boys under 14 have had small-pox is probably within the mark. The following are the officially recorded deaths from cholera since 1851; those from small-pox average 973 per annum since 1865.

Year.	Cholera deaths.	Year.	Cholera deaths.	Year.	Cholera deaths.
1851	.. 554	1855	.. 800	1859	.. 627
1852	.. 853	1856	.. 4,903	1860	.. 1,817
1853	.. 5,108	1857	.. 12,383	1861	.. 1,288
1854	.. 4,523	1858	.. 4,400	1862	.. 920

Year.	Cholera deaths.	Year.	Cholera deaths.	Year.	Cholera deaths.
1863 ..	3,814	1870 ..	2,913	1877 ..	12,528
1864 ..	5,452	1871 ..	83	1878 ..	233
1865 ..	4,037	1872 ..	..	1879 ..	..
1866 ..	7,760	1873 ..	..	1880 ..	..
1867 ..	373	1874 ..	62	1881 ..	432
1868 ..	15	1875 ..	14,220	1882 ..	1,451
1869 ..	627	1876 ..	26,933	1883 ..	3,379

The usual time for cholera is from November to February. It will be observed that the worst outbreaks were coincident with scarcities or famines.

ACCIDENTAL DEATHS AND SUICIDES.—The following table gives averages of accidental or unnatural deaths as reported :—

Quinquennium.	Average per annum.					Total.
	By suicide.	By accidental drowning.	By wounds and accidents.	By snake-bite.	By wild beasts.	
1867-72 ..	95	414	72	9	8	608
1872-77 ..	115	334	70	54	5	598
1877-82 ..	135	498	69	44	11	747

That the accidental deaths by drowning are chiefly accidents is probable both from the ages as reported and from the fact that they are by far the most frequent when there have been heavy monsoons, so that the wells are slippery and full of water. As much of the bathing is done in the wells, and as most of the water for domestic use is got from the numerous (60,000) irrigation wells by descending steep, wet, ill-formed, and unprotected steps, and dipping by hand large vessels into the water, it is a matter for wonder that there are not more deaths, considering the age and sex of the usual drawers of water. Apart from the sanitary considerations, this is a reason for the more general introduction of village draw-wells for drinking water. At only one kudam (three or four gallon vessel) per house per diem—and assuming that only half the houses are supplied in this way—at least 65,000,000, and probably more than double that number of descents into these wells must be made every year for drawing water alone, besides for bathing and casual drinking.

Deaths by snake-bite are not very common, and those by wild beasts are confined to the forest taluks.

The following table shows the infirmities recorded in the censuses; the percentage columns show the ratio to the total under the infirmity.

Census.	Infirmary.	Total of all ages.			Ages.									
		Both sexes.	Male.	Female.	Under 5.		5-10.		10-15.		15-20.		20-30.	
					Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
1871	Unsound mind.	300	344	253	9	1.7	43	8.4	42	9.2	63	13.5	123	24.3
1881		248	140	108	1	.4	8	2.4	16	4.4	19	7.6	29	29.1
1871	Blind.	4,215	1,795	2,420	296	5.7	279	4.6	208	4.8	250	3.8	665	10.4
1881		2,903	1,191	1,707	60	2.03	165	5.5	181	6.1	146	4.9	307	12.3
1871	Deaf-mutes.	2,474	1,250	1,224	106	7.9	320	12.9	253	10.2	229	9.61	378	15.9
1881		625	349	276	22	3.5	134	21.4	126	20.1	89	13.2	134	21.4
1871	Lepers.	399	247	152	5	1.3	19	4.91	25	6.7	19	4.7	48	22.00
1881		241	153	108	0	0	0	2.4	0	2.07	8	3.3	52	19.2

Census.	Infirmary.	Total of all ages.			Ages—(Continued).								Number per 10,000.	Presidency number per 10,000.
		Both sexes.	Male.	Female.	30-40.		40-50.		50-60.		Above 60.			
					Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.		
1871	Unsound mind.	300	344	253	82	16.3	76	15.5	55	6.8	19	3.7	286	3.24
1881		248	140	108	40	10.0	52	20.9	32	17.8	14	5.6	1.3	
1871	Blind.	4,215	1,795	2,420	559	10.9	678	13.7	500	14.7	797	18.7	24	10.38
1881		2,903	1,191	1,707	479	16.1	410	14.4	663	12.2	788	20.9	17.87	
1871	Deaf-mutes.	2,474	1,250	1,224	305	12.5	266	10.9	644	9.8	287	11.6	14	5.63
1881		625	349	276	61	9.7	40	6.3	14	7.2	11	1.7	3.6	
1871	Lepers.	399	247	152	73	18.7	74	18.3	75	19.7	64	16.04	2.86	4.00
1881		241	153	108	30	14.9	38	24.00	47	19.2	47	12.2	1.45	

The first point for notice is the enormous diminution since 1871; this is largely attributable to the effect of famine both upon infirm constitutions and upon the power of obtaining a livelihood; partly, however, to the exclusion of the merely deaf (*vide infra*). The second point is that several entries under each head are double entries, some blind being also deaf-mutes, some lepers blind, and so forth; the exact number is not ascertainable. The third point is, whether those entered as deaf-mutes include those who are merely deaf; this is stated as probable in the Census Report for 1871 (p. 198) and as a fact in the Madras Manual of Hygiene, and is borne out by experience in the district that, though many are deaf, few are both deaf and dumb. Moreover in 1871 the proportion of alleged deaf-mutes below and above 20 years of age was as 20 to 30, while in the ordinary population it was as 19 to 21; hence under this infirmity there were relatively many more aged than amongst the normal classes. This is contrary to experience as to the vitality of deaf-mutes, and to the results of the census of 1881, which returns the proportion as 36½ to 26 for deaf-mutes below and above 20 years old, as against a ratio for the general population of 24 to 26. The 1871 figures evidently represent deaf-mutes and deaf, especially those deaf by age; those for 1881 chiefly deaf-mutes; hence the principal cause of the great diminution since 1871. The proportion of deaf-mutes to population is low, viz., 3½ per

10,000 as against $5\frac{1}{2}$ for the presidency; this is probably due to a dry healthy climate and marriage at a not very early age, and compares favorably with the proportion in European countries. The fourth point is that the blind are frequently so from small-pox; the large number of adults of medium age corroborates this, which district experience suggests. It would be interesting to know whether all these are really blind or only purblind; many persons are almost blind in the dusk, though not so during the day. The number of blind seems extremely large, and more so than is suggested by experience. Their vitality is also very remarkable to judge by the age columns; this seems to show that those purblind by age have been included; this is also corroborated by district experience. The fifth point is that females suffering from these infirmities are at all ages considerably fewer than males; the only noticeable exception is the great excess of blind females at the ages of 50 and upwards. The sixth point is the immense excess of male lepers above females at all ages above 20; the vitality of the lepers is also remarkable, the number of those above 50 being 39 per cent. of the whole. The last point is that in few of these cases is the infirmity congenital to judge by the fact that the first decade contains far fewer under any infirmity than any succeeding decade; this is strikingly illustrated in the case of those of unsound mind—who are therefore probably lunatics, not idiots—and of lepers; deaf-mutes, however, are of course an exception, the second decade alone being higher than the first decade, after which they rapidly die out. The district as a whole has proportionately fewer infirmities than the presidency in general. It is evident that there is a vast and unexplored field for the sanitarian, the physician, and the philanthropist. There is no charitable institution for the education and treatment of the blind, deaf and dumb, idiotic or insane, or other of the “abnormal classes.” Coimbatore, however, is on a level with the rest of the presidency in this respect.

AGES.

The following table gives the ages of the people in decennial periods.

Ages	Male	Female	Total	Percent- age to total popula- tion.	Presi- dency percent- age.	Famine district percent- age.	Percent- age to total in 1871.
0—10	218,372	228,438	446,810	26.06	26.40	24.38	30.00
10—20	181,902	165,721	347,623	20.94	21.18	21.68	22.36
20—30	131,259	109,239	240,498	17.63	16.68	17.81	16.89
30—40	121,875	123,566	245,441	14.81	14.48	15.46	12.44
40—50	77,192	83,374	160,566	9.89	9.64	9.88	8.61
50—60	44,010	51,584	95,594	5.82	6.05	5.90	4.64
60 & upwards	21,249	39,410	60,659	4.26	5.43	4.91	4.97
Total ..	806,806	800,821	1,607,627	100	100	100	100

The decrease below 1871 figures in the percentage of those under 10 and above 60 is probably due to the famine. Vicennially the percent-

ages at each age to total population come out for 1871 and 1881 as follow in comparison with those of the presidency :—

		Under 20.		21 to 40.		41 to 60.		Above 60.	
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
District ..	{ 1871 ..	26.77	26.65	15.09	15.87	6.47	6.52	1.30	1.33
	{ 1881 ..	24.14	23.76	15.27	17.06	7.36	8.14	1.89	2.38
Presidency {	1871 ..	26.12	25.79	15.08	15.25	6.89	6.69	2.33	2.22
	1881 ..	23.07	22.39	14.98	16.01	7.50	7.75	3.93	4.37

Assuming the above two tables to be approximately correct, it appears that females exceed males by about 5 per cent. in the first 10 years, that between 10 and 20 female mortality is above the average and reduces their number to much below that of males, and that after 20 the female expectation of life is better than that of men, especially at 50 and upwards.

Roughly speaking, the population under 60 is for 1881 divided medially by a line passing through the twentieth year, viz. :—

		Per mille.				
		Coincidence.		Presidency.		Famine districts.
		1871.	1881.	1871.	1881.	1881.
Under 20 .. ..	..	524.5	475.94	326.49	469.06	456.17
20 to 60 .. ..	..	425.8	478.44	441.43	476.89	495.11
60, &c. .. ..	..	49.7	42.62	32.06	54.11	48.72

The famine mark on this comparison is the low proportion of the young and of aged people. The remarkable feature about the table is the immense excess in 1871 of those under 20. This is a strong proof of the suggestion that between 1850 and 1871, apparently from the stimulus of high prices and thereby added comforts, the population increased at an abnormal rate. It will be curious to note the proportion in 1891.

The population of a school-going age, viz., from 5 to 15 years old, is approximately as follows; the numbers are calculated from the ascertained rate for famine districts (*cide* table No. 53, pages 75 and 76, Census Report for 1881).

Number of children from 5 to 15 years old.			Percentage.			
Male.	Female.	Total.	Of total males.	Of total females.	Of total population.	Boys to total population.
206,181	216,670	421,851	25.43	25.49	25.46	12.37

The following table shows the proportion of children below 5 years of age per 100,000 of the population :—

Ages.				Coimbatore.	Non-famine.	Famine.	Remarks.
Under—1	..	..	..	3,164	3,058	2,930	Born in 1880.
1—2	..	..	..	2,334	2,209	1,772	Do. 1879.
2—3	..	..	..	2,177	2,473	1,656	Do. 1878.
3—4	..	..	..	2,604	2,114	2,066	Do. 1877.
4—5	..	..	..	2,726	2,957	2,354	
Total				13,005	13,838	10,790	

The birth-rate of 1878-79 was evidently low, but not nearly so low as the average of famine districts; there are traces of abnormal infant mortality and reproductive failure in 1878 and 1879, but the birth-rate in 1880 is higher than in any famine district except Salem. The figures are, however, untrustworthy; the total under 5 years of age (217,067) is less than half the total under 10 (446,820), which is doubtful; the ryots are very inaccurate in the matter of figures, and at low ages, the difference of a year is important.

On the whole, as gauged by ages and births, the district suffered less and recovered more rapidly than almost any other district in which the famine was of equal intensity; as shown above, the actual diminution of population between 1871 and 1881 was 5.99 per cent. as against a famine district average of 12.99 while there was a deficit of 12.63 per cent. below the population, that, but for the famine, would probably have been found in 1881 at the normal rate of increase, as against a famine district average deficit of 18.10 per cent.

CHAPTER IV.

ARCHAEOLOGY AND HISTORY.

Primitive Inhabitants.—Kongu.—Its Limits.—Memorial Verse.—Conquered by Chola.—
 Pálayapata.—Conquered by Bellálas.—Conquered by Vijayanagar.—Annexation by
 Madura on Disruption of Vijayanagar.—Conquest by Mysore.—Final Absorption by
 British.—Former Administration.

THE most primitive inhabitants appear to have been those tribes whose burial-places, called Pándava-kulis (cairns), are found throughout the district, but especially near the Ánimalais and other hills. Whether these were the Vedars (hunters), who were probably conquered by the Vellálars, and of whose descendants some became civilized agriculturists and are known now as Vettuvars, with the appellation of Goundans, some called Vedars wander in the jungles of the low country to this day and are little above ignorant savages, is not known; but the somewhat elegant pottery, superior to modern in quality, covered with a kind of varnish, and ornamented with waved lines, shows some knowledge of at least one fictile art. Iron knives, so rusted that they fall to pieces on exposure to the air, are also sometimes found, and a bronze cup was dug up at Avanáshi, but it is doubtful whether this was in a cairn or not. Nothing whatever is known of the race that built these cairns; the local name is Pándava-kuli, which is absurd. In common with most southern districts, Coimbatore claims the honour of having sheltered the Pándava princes, the Mettupálaiyam forests or Nilgiri slopes being pointed out as the scenes of their wanderings, and Dhárápuram, the original name of which is locally said to have been Virátapuram, as the city where they dwelt in disguise. The forests and hills of Kollegál are also claimed as the residence of the Pándavas (Buchanan).

The Coimbatore district¹ is to this day known as the Kongu-desam or Kongu-nádu, a name the origin of which is lost in antiquity.

¹ The ancient history of the Kongu country is wrapped in obscurity, and its elucidation, if possible at all, will require much special knowledge, research, and time; merely a rough sketch has therefore been attempted here; for a full discussion the reader is referred to the learned article on the subject by the Rev. T. Foulkes in the Salem Manual, and to the authorities there quoted. A perusal of the Rev. W. Taylor's Catalogue of the Mackenzie MSS. shows that there are scores of Tamil manuscripts collected in Coimbatore, and directly relating to its history and antiquities; the survey reports of Colonel Mackenzie himself, and (*vide* Nilgiri Manual) to be contained in seven folio volumes, are believed to record an immense mass of information of more or less value on the antiquities, history,

Whether it was, or formed part of, the old Cera kingdom is a matter of dispute; a local legend says that originally the Coimbatore district formed part of the Cera dominions with its capital at Karúr, but that the last Cera rajah had two sons, one of whom, Cerau, took the western half now known as Kerala (the West Coast), and the other, Kongan, remained at Karúr and married a foreign (Cholan) princess, who, being dissatisfied with the wild nature of the country and its inhabitants (Vedars), managed to get a colony of Vellálars introduced, by whom the country was brought under cultivation. This, if it has any foundation, probably refers to a conquest of the country by an irruption of foreigners, and may refer to the conquest recorded in the Kongu-desa Rájakkal MS. It seems probable from the names of the Ganga kings of Coimbatore that the country was called Kongu long before the Cholan invasion, and that the invading Vellálars, if from Chola, did not give the name of Kongu from their own name, but took to themselves the name of the country in which they settled. But the Vellálars of Coimbatore do not bear the name of Pillai as in other districts, but are chiefly Goundans, and it may be that the Coimbatore Vellála Goundans did not come from Chola, but from the north-west, and brought the name of Kongu with them.

That the country with part of Salem originally formed part of the Cera country seems probable; the name was so used in Buchanan's time; the Sheraráyan or Seraráyan (king of Shera) hills, being the Salem boundary of the kingdom, appear to preserve the name; the word Chera is used in substitution for Kongu even in the Kongu-desa Rájakkal history itself, and, most important of all, the allusion by Ptolemy (say, 110 A.D.) to Karúr (Karoura) as the capital of the Cera-putra or son of Cera (*Κηρο-βόρου*²), shows that this province was then known as part of the Cera kingdom.

Possibly the original Cera kingdom extended over the whole of Malayálam (Kerala), and over the province of Coimbatore and part of Salem (Kongu) as far as the Mysore gháts on the north, the Shevaroya on the north-east, the Chola kingdom on the east, and the Pándyan kingdom on the south, and the Kongu portion changed its name with its rulers upon an irruption of the Ganga or Kongani race from the north-west about the year 189 A.D. It is to be noted that the first appearance of the name Kongani is in the name of the first of the new dynasty (Srimat Kongani Varimá, etc.), who probably came down

social and material condition of the district. It is stated that four of these volumes are in the India Office Library, London.

In modern times, viz., from the sixteenth century, Coimbatore was a mere appanage either of the Madure or Mysore kingdoms, and had no political entity of its own; hence its modern history up to 1799 cannot be separated from the history of those kingdoms, and the reader is referred to the pages of the historians of the South of India. The present sketch merely fits Coimbatore into its place among the fragments from which the British built up the present Madras Presidency.

² Compare the Açoka name of Ketala-puta and Kerala-putra.

the Canvery valley from the sources of that river in the mountainous (Kodagu) country of the Mysore or Coorg highlands.³ Thenceforward the province may have been known indifferently as the Cera or Kongu country, viz., Cera to outsiders and to its aborigines, and Kongu to its new inhabitants. The conquest was probably similar to that of the Normans in England; a new race of rulers was imposed, but the soldiers and people remained much the same, as shown by the fact (Kongu-desa MS.) that during this dynasty the soldiers remained Vedars, i.e., jungle tribes or hunters.⁴ According to local legend the new province was then demarcated from neighbouring kingdoms by treaty between the various kings, and an earthen rampart, known to this day as the Kongu-karei, was erected on the south-east of the province; traces of this bank are still seen running north-east across the Canvery (it is said) to the Kollimalais, and south-west to Palni; the trijunction of the Cera (Kongu), Chola, and Pándya kingdom was at Madhakarei (*quasi* Madhyakarei) in Kulitalai taluk, a few miles south-east of Karúr.⁵ There is also another Madhakarei on the west of Coimbatore, exactly at the entrance to the Pálghát gap where the mountains approach one another within 16 miles; this rampart was probably the boundary between the Kongu and the divided Western Cera kingdom (Kerala), of which latter the southern boundary was Sengodu or Tenkási on the borders between Tinnevely and Travancore, and its northern Palni at the north-east corner of the Palni hills, by which boundaries are no doubt to be understood the gháts between Tinnevely and Malayálam, and the great Palni hills respectively. In the *quasi*-historical memorial verses it will be seen that Cera is given these boundaries, and Professor Dowson, believing Coimbatore to be Cera, has endeavoured to explain this incongruity by assuming that Sengodu is Tiruchengóđ in Salem, and that Palni is a clerical error for Bhaváni. It is difficult to see how Tiruchengóđ in the north-east corner of Kongu, and 13 miles north-east of Bhaváni-kúdal, could be the *southern* boundary of Cera, while the transformation of Pazhani (பாழனி) into Bhaváni (பாவனி) is unlikely. The usually quoted verses however, while mentioning the boundaries of the three kingdoms of Cera (i.e., Malayálam), Chola, and Pándya, leave unmentioned the Kongu country, and do not account for

³ The conquest is probably commemorated in the name Kángyam, a village, and formerly a flourishing place in Dhārāpuram, close to which is the celebrated hill temple of Sivanmalai. This name can hardly be a corruption of Kongu; the local interpretation is that it is the place of Gāngeiyan, or son of Ganga, a name given to Siva as worshipped at Sivanmalai, but it may well be that the real Gāngeiyan is the king of the Ganga dynasty which overran the district. The pottigars, or caste chiefs of the Goundans of Kongu, are located at or near Kángyam.

⁴ This particular class of Vedars probably remain to this day under the more respectable name of Vettuvans, and call themselves Goundans, as do also the Padaiyáchis (or Pallis), whose occupation as soldiers is evidently commemorated in their name.

⁵ Can the name Karúr be a corruption of Karai-y-úr, or the city near the (Kongu) karei? The current derivation is from Kara-v-úr = Garbhāpuram, from the local legend.

or delimit the large area north of Palni, although one set of verses is assigned to Kambar in, say, the ninth century, or possibly a good deal later, and Kambar is claimed locally as a poet who partly resided in the district and instructed the Puluvans, who are the authorities for the social and secular customs of the Gooundans, and who claim that their ancestors were Kambar's amanuenses and the depositaries of his poetry. But in the verses as locally known, the first, third and fourth verses are those ordinarily quoted, while the second is a new one and gives the Kongu boundaries as follows:—

வடக்குத்தலைமலைபரம் இவகாஜர் தெற்கு
குடக்கு வெள்ளிப் பொருப்புக்குன்று இழக்கு
குறித்தண்டலைகுழும் காமிரி நன்னுடர்
குறித்தண்டலைபுளயும் கொங்கு.

That is, to the north Talaimalai, to the south Palni, to the west the Velliyangiri hills, to the east Kuli-tandalei (Kulitalai); these are the Kongu limits. Talaimalai is the range between Mysore and Satyaman-galam, and the Velliyangiris are the hills between Coimbatore and Malabar to the north of the Pálghát gap. The verse, if genuine, points to a time when Karnáta had lost control over Kongu, for its northern limit is Talaimalai; this may have been during the rule of the Cholas in the ninth and tenth centuries. But the verse may be modern.

The Kongu country has been immemorially divided into 24 náds or divisions, of which the bulk are in Coimbatore, a few being in Salem around Tiruchengód, in Trichinopoly near Kulitalai, and in the Palni taluk of Madura, the whole being thus a compact block within the above-mentioned limits. These náds have a regular order of precedence.

The original capital, Skandapuram, was probably Karúr, or possibly Dhárápuram; its position among extensive wet lands suits either place, and other allusions in the Kongu-desa Rájakkal MS. show that it was a fortress on the immediate borders of the Chola and Pándya kingdoms. Karúr entirely satisfies these conditions, and is moreover especially spoken of by Ptolemy as the royal city; there have been several finds of Roman coins close to Karúr, which show that it was a mart of importance, and known to merchants who were probably Ptolemy's informants. The temple is one of the great Kongu faues, while the position of the town on the Amarávati and close to the Cauvery renders it a place of lively trade.

About the year 878 A.D. the Kongu or Cera dynasty gave way to the Cholas, who conquered both Kongu proper and Karnáta including Talkád, and held the territory for nearly two centuries; about the middle of the eleventh century Kongu-Karnáta became broken up into small principalities (pálayapáts), which fell a prey to the Bellála kings within 1080 A.D., Karnáta falling first to Vinayaditya, and Kongu subsequently to his son Vellála Rája. In an inscription of the twelfth century (Mysore Gazetteer), it is stated that Vellála Rája, the king of the Hoysola Bellála dynasty, whose seat was at Talkád, "subdued

Kongu and took Kovatūr (Coimbatore), establishing a kingdom whose southern boundary was (included?) Kongu, Cheram (Salem or Malayalam) and Ānēmal (Ānaimalais)." In 1283 the Kongu chieftains rebelled only to be again subdued. But in A.D. 1348 the Vijayanagar forces, which had destroyed the Bellāla capital in 1310, invaded and conquered the whole of South India, and retained dominion in spite of occasional revolts by Kongu and Karnātak chiefs, until the disintegration of the empire consequent on the conquest of Vijayanagar in 1565. The outlying provinces, including Madura and Karnāta, were under viceroys who assumed independent powers, and in the latter part of the sixteenth century the Coimbatore district passed from the hands of the Karnātak viceroy who ruled at Seringapatam, to those of the Madura viceroy Virappa Nayakkar, who assigned several of the 72 Madura bastions to Coimbatore Poligars, including Etti Naik of Dhalli, and Getti Mudaliyār of Omalur (Salem) and Bhavāni. By a copper sāsanam of S.S. 1509 (A.D. 1587) it is clear that the province was completely under the rule of Madura, for the villagers of Vallōdu near Erode appeal to the authority of the Madura Raja.

From 1623 to 1672 there were continual wars and incursions ending in the final annexation to Mysore of the territory surrounding Coimbatore, Karūr, Erode, and Dhārāpuram; Chikka Deva of Mysore established a kingdom which extended "from Palni and Ānaimalai in the south to Madagāsi in the north" (Mysore Gazetteer, Vol. I, p. 247). The Mysore kingdom, including Coimbatore, eventually fell into the hands of Haider Ali and thence to his son Tipū. During the 40 years of Muhammadan rule this district was the scene of incessant incursions and sieges, advances and retreats, on the part of the Mysoreans and British, the details of which, though occasionally brightened by displays of valour, are not in themselves pleasant reading. The forts with which the country was studded, such as Satyamangalam, Kāvēripuram, Erode, Karūr, Aravakurohi, Vijayamangalam, Dhārāpuram, and Coimbatore, were continually taken and retaken, the surrounding country being the scene of the miseries attendant on such wars, until the fall of Tipū in 1799 brought Coimbatore under the influences of the British peace.

Government and the People.—Little is known of the former methods of government, imperial or local, and still less of the condition of the people. Scattered hints are however to be gathered from the reports of the French Jesuit Missionaries in the seventeenth century, Wilks' History of Southern India, Buchanan's notes, and some of the reports of the earliest British Collectors. From the reports of the Madura Mission (Jesuit) in the first half of the seventeenth century the following extract is taken; Coimbatore was at that time governed by the Naik of Satyamangalam, apparently a relative of the Madura Naiker:—

"The minority of his son caused us to suffer the dire consequences of the bad government which is prevalent in India. The idea of a ruler who looks upon his people as a great family of which he is the father, has never entered into the head or heart of the Indian princes; they consider them-

selves rather as owners of the people, and their kingdom as a vast farm to be operated on. While they are of unbounded energy and acuteness in extorting from their subjects the utmost possible revenue, they are wholly blind, careless, and weak in the matters of order, justice, and repression of crime. Everything is abandoned to subordinates, to the heads of castes, districts, and villages, who consequently become petty tyrants, accustomed to regard themselves as independent, or to shelter themselves by intrigues, and bribes offered to the greed of those who ought to supervise them." (Vol. II, p. 394.)

Similarly in Vol. II, p. 6, the government is spoken of as a "mere tyranny and mass of confusion and disorder." The country was covered with thorns and stones, while marauders were so numerous that a traveller by night was "almost certain to fall into the hands of robbers" (Vol. III, p. 3), so that the Missionaries travelled on foot by day with all their worldly goods on their shoulders. Wild beasts were so common, at least in the forest taluks, that one Missionary lost thirty of his acquaintance within six months by their ravages, and pestilence and famine were not unknown, as in 1648, when a great part of the population died or deserted. Bands of armed religious mendicants (yogis, Fr. "jognes") infested the country, levying their contributions and resorting to the *argumentum brachium* when other methods failed. During the sixteenth, seventeenth, and first half of the eighteenth centuries, the government, especially in the south and east, was largely conducted by Poligars, who were feudal lords, paying an annual tribute to Madura, and bound to keep up a certain number of soldiers for the aid of the lord paramount. The poligars themselves were rewarded by the surplus rents of their estates, and their soldiery by the grant of small farms (Buchanan). The surroundings of these petty courts and the presence of a rude, underpaid soldiery, led to many abuses and oppressions, especially to the peasantry and to trade. Within his *pālāiyapat* the poligar had every kind of power, extending to that of life and death. The Mysore Government appears to have restrained the poligars to some extent, and Haider finally resumed their estates with the exception of about one-tenth, within which the poligar still retained his powers. Besides the ordinary land revenue, above sixty taxes with numerous sub-divisions, were regularly levied by the Mysore Hindu Rajas; these were continued by Haider and Tipu, and, with several deductions, formed the *moturpha*, *sayer* and *visabadi* taxes which subsisted during the first half of the present century. Benevolences (*nazarāna*) were also freely levied when required (Wilks' Mysore; e.g. Vol. I, p. 399, and Vol. II, p. 264), while the sequestration of temple, educational, and other inams, formed another source of income, at least under the Muhammadan rulers. Under these rulers, however, there was more security for the public against open violence, and Haider's armed police were a formidable military force. It was however a Hindu raja (Chikka Deva Raja) who invented the plan of combining postal and police duties, his postmasters being also police spies; this engine Haider

developed till he was able to reach "the inmost recesses of every private dwelling" (Wilks), and both real and imaginary crimes were relentlessly punished, especially when the offender was an official who had, or could have grown wealthy by private plunder. Trade was at a standstill in Coimbatore; Haidar adopted the surest method of fettering it by levying heavy imposts on the bankers, and Tipu adopted the device of forbidding external trade (J. Sullivan), and of increasing the already numerous toll-gates (*chaukis*), where duties, legal and illegal, were levied on internal traffic; it was estimated that there was a gate on every ten miles of main road. Roads as now understood were non-existent, and carts unknown (Collectors' reports and Buchanan); all goods were carried on pack bullocks and ponies along tracks and bridle-paths. The *abkari* department was non-existent and drinking was free, but Tipu objected to intoxicants and ordered the felling of all palmyras; this was however but a *brutum fulmen*, and was but slightly carried out.

Little is known of the condition of the people; it may be guessed from the foregoing hints, from the fact of incessant wars and incursions during several centuries, and from the low state of population, which in 1800 numbered but 5 or 6 lakhs as against 16½ in 1881.

CHAPTER V.

LAND REVENUE HISTORY.

Previous History.—The Poligars.—Mysore Regime.—Haidar's Assessments.—Tipu's Assessments.—Tipu's Standard Beris.—Oppressions and Frauds, &c.—Company's Practice.—Division of the District under Macleod and Hurdle.—Macleod's Preliminary System, his Survey, Re-valuation, and Fieldwar Settlement.—Areas.—Rates.—Grading of Villages and Taluks.—Result of the Settlement.—Hurdle's System in the South.—Survey.—Land Classification.—Government Share.—Commutation Rate.—Gradations of Land.—Remarks on the System.—Probable Errors.—Table of Rates.—Remarks.—Fall of the Revenue.—Reasons.—Consequent Reduction of Dry Rates.—Result to the Ryots.—Permanent Settlement.—Village Lease System.—The Board's Arguments.—The Three-year Leases.—Their Entire Failure.—Inchoate Decennial Leases.—Abuses and Intrigues.—Mr. Sullivan's Appointment.—Cancellation of the Leases for Fraud.—Re-introduction of Ryotwari.—Recapitulation of this System.—Its Theory.—Local Defects, viz., Corrobor, Restrictions, Inquisitions, &c.—Subjects requiring Notice.—(1) Patkal or Estate System.—Its Original Scheme.—Scheme as adopted.—Restrictive Rules and Consequent Remissions.—(2) Permanent Reductions.—(3) Remissions.—Causes.—Description.—Remarks of Various Officers.—Permanent and Discretionary Cowles, &c.—(4) The Gross Rents.—Ayen pillu and Paravu pillu.—(5) Garden Assessments.—Incidence, Minutiae of Investigation and Interference.—Increase of Wells.—Mr. Drury's Remarks.—Recommendations of Mr. E. B. Thomas and Mr. P. Grant.—Government Orders of 1854 and 1864.—Result to Revenue, to Well-digging and to Ryots.—Necessity for Wells in Coimbatore.—(6) Second-crop Assessment.—Description of Former Customs.—(7) Taccavi.—(8) The Dittam, Jammahandi and Kuthandi.—Recapitulation of System from 1799 to New Settlement in 1879-82.

THE history of the Revenue administration is one of change and modification. Almost all the old taxes have been removed and partially replaced by new, while those that have endured have been greatly modified both in amount and system. As the backbone of the revenue, and as the tax which chiefly affects the ryot class, which is the backbone of the district,¹ the Land Revenue claims the chief share of attention; the other imposts will be briefly discussed subsequently.

In this district the history of the Land Revenue under the British, while comparatively uneventful, is very interesting, since the system has been purely ryotwari throughout, except for three years, the assessment has been comparatively moderate, every modification has been entirely in favour of the ryot, and but for one or two anomalies and restrictions, the system appears to have more nearly corresponded with that of the ideal ryotwari district of Sir Thomas Munro than any other in the Presidency. Roughly speaking, the progress of the system has been from comparative restriction to almost absolute freedom, from the practice of sharing profits even on the ryots' capital to entire relinquish-

¹ Tamilicé "The ryot's god is the ruler's sceptre."

ment of everything except the fixed assessment, from a somewhat inquisitorial settlement to complete non-interference with individuals.

Little is known of the revenue history of the district prior to the Mussulman government of Mysore; in the sixteenth and seventeenth centuries it appears to have been largely in the hands of barons (poligars), who divided the country between them. A Mackenzie manuscript mentions the eighteen great poligars of Kongu-deenam (Coimbatore), and the history of Madura shows that the south of Coimbatore was occupied by them. In the northern part there were also poligars, *e.g.*, Gettu Mudali of Womalūr in Salem, whose power and estates in Coimbatore extended from north of Bhavāni apparently to the Nōyil. But these appear to have been crushed by the power of the neighbouring Mysore kingdom, so that little is known of them, and none now exists north of the Nōyil. Under these poligars there was probably little system, each noble levying as much as he could, and respecting only the village organization which enabled him to draw his rents.

As elsewhere stated, the poligar collected the Government dues, of which part was sent to the lord paramount and formed the imperial revenue, part was retained by the poligar for his own maintenance and that of the militia (Kandashāra) which he was bound to keep up (Buchanan). The dues were levied in arbitrary fashion; each village was assessed at a lump sum, which probably varied at the caprice or needs of the poligar, and the ryots either assessed themselves or were assessed by the headman in shares of this lump sum. In addition to the land dues there were levies of blackmail called *kāval* fees, both upon the ryots and upon such traffic as existed (Garrow); another form of revenue was taken in the shape of unpaid labour, by which public buildings, irrigation works, and so forth, were maintained (Munro).

But under the vigorous rule of Chikka Deva Raja of Mysore the poligars' power began to wane; one evidence of this is the regular field survey carried out by him, the accounts of which were seen at Pollāchi and Palladam by Buchanan in 1800. The above survey was probably the basis of Haidar Ali's levies, but his demands were both raised and systematized; they were so high that only his skill enabled him to realize them. Even under his *regime* the people might have prospered but for the exactions of his subordinates, which Haidar in no way objected to, for it was part of his system to squeeze the sponges which absorbed his people's surplus wealth (Wilks). So far as can be gathered, Haidar's rents were all paid in money; even the wet lands, which under the Hindu government were subject to a division of the produce at the rate of two-thirds of the gross to government and one-third to the ryots (Buchanan), were assessed with money rents calculated in *Vīrarāya fanams*. This was an improvement upon the division system, for it rendered collection easy and did away with the practice of forcing the government share upon ryots below the market price. But it was objected to by the ryots on the grounds—(1) that they could no

longer defraud government in the division, (2) that they were obliged to work hard instead of as lazily as they chose, (3) that they were less able to bear bad seasons, (4) that as the demand for the rent immediately followed the harvest, the ryots had to sell their share at once, so that there was a glut in the market and prices fell. For these reasons many of the ryots of the wet land, being Brahmans, and therefore cultivating only by others, gave up their lands (Buchanan).

Tipú, in his desire for system, established in Fasli 1198 a new standard demand based upon Haidar's, which in Fasli 1205 he increased 25 per cent. by the simple process of declaring that the kists should be payable in Canteráya (Sultáni) instead of Viraráya fanams. This resulted in still more lands being thrown up, especially wet lands, to which, as being very rich, much fiscal attention was paid, so that in 1800 the Kalingaráyan, which used, it is said, to run to Karúr, and which now runs as far as the Nóyil, irrigating nearly 9,000 acres, actually irrigated only as far as Kolánalli, and to the extent of only 3,500 acres. According to Macleod, Haidar's land revenue from the Coimbatore district was 761,094 pagodas, or Rs. 26,66,664, to which must be added the various extortions practised by his officers. Tipú's standard beriz of Fasli 1198 was apparently about the same or a little higher, as the revenue for the division north of the Nóyil was 420,155 pagodas, but in Fasli 1205 he raised it by about one-fourth or $6\frac{1}{4}$ lakhs of rupees; this increase, however, is said by Macleod to have existed only in account. The taluk of Kollegál and all above gháts were not included in the territory paying this revenue, which was that below gháts. The standard beriz which formed the general guide for the Company's assessment was only endurable by the fraud practised, and it will be seen that it had to be largely reduced. In estimating its weight it will be remembered that money was then at least twice as dear as now (*vide* section on "Prices") and the occupied area much smaller.

With a view of enforcing collections Tipú increased his establishments by successive diminution of the taluk areas, so that a taháildári (amúldári), instead of an assessment of 20,000 pagodas, only showed an assessment of 5,000 or 6,000. But his demands were beyond reason in the then state of the country and of prices: increase of establishment meant, in the absence of supervision, the increase of fraud and embezzlement, and he never collected above half or three-fifths of his nominal standard revenue, and enormous arrears were due at his death. Nevertheless the ryots were no gainers, for much of these arrears had really been paid by them to the revenue officers, who had embezzled these sums, and who, in addition, were in the habit of collecting dues twice over when the ryot showed symptoms of wealth. In theory no ryot could be turned out of his possession so long as he paid the assessment, but in practice "the officers of former governments removed the tenants as they pleased, and gave the best land to their favourites" (Buchanan). In short, in those days nothing but bribery and fraud could save a ryot from ruin. For while on the one hand the ryots

bribed the superior officers to defraud the treasury, on the other hand they bribed the inferior village officers to cheat by false accounts and measurements. The nominal unit of area (bullah) was exceeded in reality by an average of 40 per cent. (Macleod), while, as Buchanan observes, the accounts seemed to be solely intended for the purpose of confusion and fraud. Every village had its own measures, and though Chikkā Dēva Raja had made a complete survey, there was no check over the village accounts, which were the only available copies, so that the karnam and headman had everything their own way (Buchanan). An obnoxious ryot could and did have his recorded areas increased and his land classification raised, while those who were friendly with the village officers or who bribed them, got proportionate advantages. Moreover, under the "shifting" system by which village lands, except probably the gardens, were periodically redistributed as in Dhārāpuram (Macleod) and Pollāchi (Buchanan), the best lands went to the village officers' friends, and the worst to the poor or the obnoxious. Yet another source of venality and interference was, that owing to the old system in which crops were shared between Government and the ryot, the assessment, at least on valuable crops such as sugar-cane, tobacco, turmeric, &c., varied with the crop. As regards the payment for waste lands the practice was various; in one place (Pollāchi) nothing was paid for Government waste, but full assessment on all included in the ordinarily cultivated lands; in other places a small (one-third or one-fourth) assessment was levied as a grazing tax on Government waste, while that in a ryot's holding was fully charged. Waste lands beyond their needs or means of cultivation were forced upon ryots, who had in this a heavy source of complaint. But probably the most objectionable practice of all was that ryots were assessed upon their pecuniary ability rather than on the value of their lands (Garrow); the assessment was capricious and often varied according as the ryot was or was not able to pay. It is obvious that a door was here opened for fraud without end, while, owing to the influence of the old village system, it was the custom that all the ryots of a village should be responsible for the whole rent, so that the default of one ryot fell upon the others (Buchanan). From the above sketch, drawn from Buchanan, Macleod, Garrow, and Hodgson's reports (1800 and 1807), it will be seen that on the assumption of the district by the British there was a heavy standard assessment upon the lands; that this was never fully credited to the treasury, however much may have been collected; that the assessment was capricious and arbitrarily graded, and varied with the capacity of the ryot to pay it; that by fraudulent measurements he held land for which he paid nothing, which alone enabled him to live, since the share and bribes taken from him left him no margin for the accumulation of wealth; and that, as a matter of fact, only gardens and some wet lands were saleable when Tipū gave place to the Company.

At this time the Company's practice was to continue, as far as might be, the assessments and practice of the former governments, merely endeavouring to equalize and systematize the incidence of taxation, and to abolish all fraud on the one hand and oppression on the other. The Company regarded themselves simply as replacing the former rāj, and assumed that the assessments and taxes they found were "fairly suited to the resources of the country," and they insisted on them, observing that the settlement "should not materially fall short of the hitherto net revenue, considering the improvable state of the lands."

Upon the assumption of Coimbatore by the Company in 1799, the tracts north of the Nôyil, now known as Erode, Bhavāni, Satyamangalam, Coimbatore, part of Palladam, and Kollegāl, were placed under Major Macleod, while the rest of Palladam, Karūr, Dhārāpūram, Udumalpet, and Pollāchi, were placed under Mr. Hurdis, the Collector of Dindigul.

Macleod at once proceeded to investigate his district, and as Fāsi 1209 had already begun, he formed a rough settlement upon the basis of the village accounts. His first idea was to assess each village in lump, leaving the headman to assess individual ryots, but this was found impracticable as the village heads were "used to more arbitrary powers with respect to assessments than was consistent with good policy," a remark which sufficiently shows the irregularities of the former system. He finally settled with each individual according to the village accounts of cultivation, giving each man a puttah for his holding. From his enquiry in this settlement he found that without a new survey and re-valuation of all lands, field by field, there could be no real system based on the capabilities of the soil; whatever might once have been the value of Chikka Deva Raja's survey and settlement, subsequent operations and the caprices and frauds of the revenue officers had resulted in a general confusion. At the same time Macleod believed that Tipū's standard demand bore in its total a considerable approximation to what the resources of the country might be brought to yield, and his efforts were therefore directed rather to equalize and regulate the incidence of individual assessment by a proper survey and general valuation of all fields with reference to existing village lump demands, than to re-value and assess the fields upon a strict calculation of the individual field produce and Government share.

This survey he began in March 1800. As stated above, each village had its own measures and rates of rent, which had been so tampered with that no one measure or set of rates could be assumed as a standard. The dry land measure (bullah) was found to vary from $2\frac{1}{4}$ acres to $6\frac{1}{4}$, while the wet land measure (chey, mah, candaca) was equally vague, being reckoned "by the ideal quantity of seed required to be sown." A bullah of 3.82 acres [64 fathoms square, the fathom (mār) being 6 feet $4\frac{1}{2}$ inches] was fixed on for dry land, as being that which appeared to be approximately true; for wet, a guli of 576 square feet,

of which 100 made one cawny equal to 1.32 acres. The result of applying these survey standards to the area nominally shown in the accounts was startling, and the measurements entered in the *karnams'* accounts were found to be altogether erroneous; a ryot who was entered in the accounts as holding 5 bullahs assessed at 5 pagodas, was found really to hold perhaps 9 or 10 bullahs, and a village of 300 cultivated bullahs turned out to have 500, so that the ryots were paying nothing on 200 bullahs. This was one of the modes by which the ryots evaded the high rates demanded by Haidar and Tipú, and obtained a margin for bribes and for subsistence.

The next question was the rates of assessment to be applied to the surveyed areas. This was attempted by averaging the rates given by the *karnams* of the villages, with only a general reference to the supposed outturn, cultivation charges, ryots' share of the produce, and prices of past years. But on applying the rates thus fixed to the areas found by survey, it was found that if Tipú's standard *beriz* was even approximately correct as a measure of total revenue, a vast reduction must be made somewhere; the newly ascertained areas were certainly correct within a small margin, and could not be reduced; the assessments were supposed to be correct, but owing to the vast addition of cultivation previously concealed, which had paid practically nothing, the nominal rates were found to be far beyond what the lands could bear; e.g., 100 nominal acres formerly paid Rs. 150, or Rs. 1½ per acre; on a correct survey the true area was found to be 150 acres, so that the actual amount paid per acre was only 1 rupee. As this latter was approximately all that the land could bear, it was useless to assess the whole 150 acres at the nominal rate of Rs. 1½, and hence a general reduction of rates became necessary to make them consistent with the new areas. By a process which is not clear, Macleod settled a general reduction in the rates of six-sixteenths upon dry land, five-sixteenths upon garden land, and one-sixteenth upon wet land, and this was applied to all rates in all villages, making a total reduction of about 40 per cent. Other casual alterations were made in rates and their application to suit local circumstances.

Taking the Perundurair taluk as an example, it was found that the rates were for dry land at Rs. 10 per bullah of 3.82 acres for the first class in first-class villages, progressively diminishing at the rate of 10 annas per class till the last class in fourth-rate villages, which were assessed at only Rs. 1-4 per bullah. For garden land the highest rate was Rs. 25 and the lowest Rs. 14 per bullah, while in wet land the highest class was rated at nine-sixteenths of a *fanam* and the lowest (seventh) three-sixteenths per guli, or Rs. 10-14 and 3-10 per acre. But to these rates were applied the standard reduction noted above for dry, garden, and wet lands, so that the highest dry rate was really Rs. 6½ and the lowest 12 annas per bullah, while garden rates ranged from Rs. 17½ to Rs. 9-6 per bullah, and wet lands from

Rs. 10-4 to 2-9 per acre. The Perundurai taluk is fairly well off in garden and dry lands except in the western parts, but has no channel-fed wet lands; hence high garden and dry rates, and comparatively low wet rates, which, in the neighbouring taluks of Erode and Satyamangalam, were far higher.

In applying the rates it was found necessary to allow for the different circumstances of villages, and consideration was also paid to the total assessment of each individual village. Hence they were divided into four classes, and twelve rates for dry, four for gardens, and four for wet lands were established; the second rate of the first-class villages was taken as the first rate of the second class, and the second rate of the second class was again taken as the first rate for the third class, and so on. Hence there were really fifteen rates in each taluk for dry, seven for garden, and seven for wet lands. The classification was carried out by the surveyors in conjunction with the ryots, the measurements as well as the classification being subsequently checked to a certain extent by a further examination.

Owing, however, to differences in soil, position, climate, and other local circumstances, taluks were found to differ no less than fields and villages; hence these also were divided into four classes, the field rates for similar soils thus varying according to both village and taluk. In certain wet villages no great attention was paid to average rents; the land was of small area and easily surveyed, so that the rents were fixed according to the believed capability of the soil, or the customary rent, as was convenient. Hence the great increase in the Satyamangalam rates, and the high assessments of the Erode taluk under the Kalingarayan channel.

It is obvious that except in ascertaining, equalizing, and fixing the actual assessments according to actual holding, this settlement did little or nothing in the way of altering Tipu's total demand; it did not pretend to assess lands at a given share of the supposed produce, but the original rates were first charged upon the newly ascertained areas, and then such reductions were made "as would bring the gross revenue nearest to the level of the beriz of 1209." The result was that the gross assessment was probably "brought within 4 or 5 per cent. of the Sultan's levy," and though this levy was "never realized by his managers," Major Macleod considered that the country might probably be able to pay it under good management, and he believed that the Government share might be considered as less than two-fifths of the gross produce in dry lands, and less than one-half that of gardens and nanjai. There is nothing to show on what grounds he based these assertions, and as regards the latter of them there is nothing on record of any experiments such as the late settlement have carried out. The result of the settlement was that while the incidence of assessment per acre was greatly lowered, the ryot paid nearly the same total, since all his acres were ascertained; on the other hand, he was assumed to be

able to reduce his payments by throwing up land which he did not require; but this freedom was denied in practice as will be seen hereafter. It will be noticed that garden lands paid a very high rent as compared with ordinary dry land; the highest settled rate (Erode) was actually at Rs. 6 per acre; this arose from the old custom of sharing the crop, so that as garden lands produced at least three or four times as much as dry lands, and as the nature of the crop was often very valuable, the Government demand was proportionately increased.

Wet lands paid a high rate, assumed to be based upon a share of the produce. Buchanan remarks that the ryots were anxious to return to the sharing system, under which they paid two-thirds of the gross produce to Government, but it is clear that their aim was to open a door for fraud and for indolence.

Originally there was no separate charge for second crop either on wet or garden lands; the latter, though regularly producing two and sometimes three crops, have never been charged anything but a single rate, which included all crops; for wet lands a consolidated assessment was introduced in 1801, but in 1832 this was, except under the Kalingaráyan, divided into two payments of about three-fourths and one-fourth of the full rent of double-crop land, and the second crop share was only charged when a second crop was grown; in some cases it was even allowed to grow two crops of paddy at a single rate, only orchard produce paying the full double-crop assessment. It may be added that the assessments were based upon enquiries instituted and rates settled in Erode and Andiyár (Bhaváni) taluks; after these data were ascertained by assessing them "village by village and field by field" (Garrow), the whole were systematized and applied to the other taluks. Hence Mr. Garrow reported that "in these two taluks the rents differ considerably from those obtaining in the remainder of the division," and it may be added that they were not only made with less regularity, but in some instances, if not generally, were considerably higher in all three classes of land; *e.g.*, the highest garden rate in other taluks before reduction was 8 chakrams (Rs. 23-8) per bullah, that in Erode and Andiyár was 13 (Rs. 33-3); "the very highest punjei assessment now established, *excepting* Erode and Andiyár, does not exceed 20 fanams" says Mr. Garrow, while the Erode wet assessments had to be eventually greatly lowered. This matter is of importance in considering the present rates in Erode and Bhaváni taluks.

In South Coimbatore Mr. Hurdie adopted the plan of estimating the capability of the soil, and framing thereon a rate corresponding to the presumed Government share; the result he took as his assessment regardless of any increase over or decrease from Tipú's standard *bariz*. For this purpose he began with a survey, dividing his villages and lands into classes. After determining the proportion due to Government, he ascertained the grain rent for each class, and then commuted the results into money. It is obvious that except upon the most minute

and accurate enquiries there was great danger of error, especially as regards the outturn of lands; the results of Buchanan's enquiries in 1800 show the extreme difficulty of getting true information, and he remarks on this point that "not less than a residence of ten years with actual experiments on every crop could enable a person to speak decidedly on the rate of productiveness which the land of any district possesses." The commutation rate was also liable to error, especially in those days of extreme fluctuation, due principally to the absence of roads, when one or two full crops in succession, added to the punctuality of the money demand, so glutted the local market and lowered prices, that the ryots were ruined by their own superabundance. And it is questionable if Mr. Hurdie had any sufficient record either of previous outturn or previous prices, to enable him to say what was an average crop or an average price for commutation. The following abstract from Mr. Hodgson's report of 1807 is the only available record to be found of Mr. Hurdie's proceedings.¹

The survey began in June 1802, and was made by "karnams and nattamgars, who bound themselves to render true and faithful accounts," and were supervised by the amildars (tahsildars) and sheristadar; the result was an increase in area of 51 per cent. above the account entries. The lands were divided into seven classes, each of which was subdivided into first, second, and third sort; each field was entered in one of these classes, and the measurement and classification then sent to the huzur. To arrive at the assessment leviable on each class, enquiries were made as to the produce and cultivation charges, and the Government share. It is presumed, but is not stated, that the produce thus ascertained was an average of years; the method of getting and checking this average is not stated, but apparently everything rested on the statements of the ryots and village officers, supervised however by the superior Revenue officers. For wet lands the charges of cultivation, at 12½ per cent., were deducted from the ascertained gross produce, and the Government share was taken as 50 per cent. of the balance; in garden and dry lands no calculation of the cultivation charges was made, but the Government share was taken as one-third and two-fifths respectively of the gross produce. The Government share was next commuted at a price averaged from those of the past ten years, and the rates thus arrived at were taken as the assessment.

It appears that each kind of land, wet, garden, and dry, contained the above seven classes, so that there were seven classes of wet, seven garden, and seven dry, all having similar technical names, and, as stated above, these were each sub-divided into three sorts. But the rates of assessment were not so numerous as would appear from this, for the first sort of one class would be the second sort of another, and so

¹ It seems that the English records were mainly destroyed in transit to Coimbatore, and Mr. Hurdie, having been transferred, sent no detailed report to the Board of Revenue.

forth. The actual result was that for the twenty-one classes of dry land there were nine rates, decreasing at the rate of about $4\frac{1}{2}$ annas per class; in gardens there were also nine rates, but only seven were imposed in practice. In wet lands a fresh complication arose in the constancy or otherwise of the water-supply; there were perennial channels from the Cauvery, there were Amarāvati channels running for a variable portion of the year, there were tanks supplied from rivers and channels, and rain-fed tanks of most uncertain supply; also there was a separate rental for regular double-crop and single-crop land; hence a list of twenty-two wet rates. It will be seen that on the one hand the measurement erred, if at all, on the side of the ryots, since they and the village officers measured the lands, the superior officers merely checking a proportion of the results; the classification was similarly conducted, and it is improbable that official zeal injured the ryots as against local influence. Then the produce was arrived at by statements taken in writing from, and signed by, karnams and head ryots, and it is very improbable that these exaggerated the outturn. Hence the errors in these three matters were as likely to injure the Government as the ryots. The only errors then that could have harmed the ryots were—(1) the share taken by Government, (2) the commutation rate, (3) the allowance for bad seasons, (4) an insufficient number of gradations.

(1.) The Government share was taken as half the net (*i.e.*, the gross, less $12\frac{1}{2}$ per cent.) on wet lands, two-fifths of the gross in dry, and one-third of the gross in garden lands. It requires little calculation to show that these rates of sharing were too high, and that such rates under former Governments were only nominal, and were in practice reduced by concealment of immense areas of cultivation. The mistake made was in applying the nominal old shares to the newly found areas; in the northern division this was rectified by a wholesale reduction amounting to about 40 per cent. Mr. Hurdia would probably have corrected his rates, but he was transferred before the matter was quite completed, and his temporary successors had no time to revise details, owing chiefly to the disturbances caused by the Dindigul Poligars. It was only in 1806 that Mr. Garrow was led to consider that considerable revision was needed in the dry assessments of the division.

(2.) On the second point little information is to be found; for some details the reader is referred to the report from Coimbatore in No. XXXI of the Selections from the Records of the Madras Government, on the commutation rates of the Presidency. But no great weight attaches to the tabular statements, which are often confused and of very doubtful accuracy, and confessedly (paragraphs 2 and 3) based on imperfect data.

The following table gives some particulars of the commutation rates:—

Crops.	Madras measures per rupee.	
	1800.	1807.
Paddy	38-45	..
Cholam	48	..
Kambu	48	38
Rayi	48	40
Horse-grass .. ..	..	45
Thennai .. ..	..	64
Namai .. ..	..	64
Varaga .. ..	..	64

It is stated that the prices in the northern division were averaged from those of the larger villages and towns; in the southern division from the average prices of only a few places; the number of years on which the average was struck was seven in the former and twelve in the latter. As remarked by Mr. Hodgson, it is not known whether the averages were based on sufficient data.

(3.) On the third point there is absolutely no information; apparently no special allowance was made for bad seasons, (1) because the number of years on which the average was struck was supposed sufficiently to cover all possible seasons; (2) because, as stated by Mr. Hodgson, remission was granted in all special cases, usually at the discretion of the Collector.

(4.) As regards the gradations of assessment, the southern division was worse off than the northern division in that it had only seven gradations as against twelve. It is probable that this was a serious error at then prices and rates, since hundreds of thousands of acres in the southern division are extremely poor and stony, yet, from the paucity of gradations, were classed and rated with more productive lands. The great reductions in 1807 were principally on the poorer lands.

The following comparative table abstracts the rates in both divisions; the complete table will be found in Mr. Hodgson's report of 1807, paragraph 45, but the entire accuracy of his figures is not guaranteed, as they are not reconcilable either with those of Mr. Garrow (Report of November 1806) or with the rates entered by Mr. E. B. Thomas in his paper on the commutation rates (*cide* Selections from Madras Government Records, No. XXXI), or with the rates prevailing at the time of the new settlement. If correct in 1807, they must have been altered at various times irrespective of the great reduction in the southern division in 1807.

Description.	Sort.	Rate per acre.					
		Southern Division.			Northern Division.		
		Rs.	A.	P.	Rs.	A.	P.
Dry ..	1	2	5	6	1	6	10
	9	0	12	8	0	11	4
	15	..	..	..	0	4	3
Garden ..	1	5	0	6	3	12	0 (doubtful).
	7	2	12	0	2	4	0
	9	..	..	..	..	..	..
Wet ..	1	14	8	6	23	8	6
	22	2	3	3	2	4	6
	25	..	..	..	1	0	0

It is to be noted—(1) that the lowest rate for dry land in the southern division was the ninth, and in spite of the poor soils on which it was levied, was as high as $12\frac{1}{2}$ annas per acre; the lowest of the northern division was as low as $4\frac{1}{2}$ annas; (2) that the gradations in the dry land of the southern division decreased at the rate of about $3\frac{1}{2}$ annas per sort, while in the northern division the progressive decrease was about $1\frac{1}{2}$ annas; (3) that the dry land and garden land were far higher assessed in the south than in the north; (4) that the two lowest rates for gardens were not imposed in either division; (5) that the progressive garden decrease was 6 annas in the south and 4 annas in the north; (6) that the highest wet rates in the northern division, viz., Erode and Satyamangalam irrigation under the Bhavāni, were 60 per cent. higher than the highest rates in the southern division under the Amarāvati, and were far too high.

The revenue in Fasli 1212 in the southern division after the settlement was about 17 per cent. above the revenue of Fasli 1211, and the assessments were on the whole about 35 per cent. higher than those of the northern division. They were, however, speedily modified; by 1806 a very serious falling off of cultivation and revenue was noticed, which is tabulated as follows:—

Soil.	Fasli 1212, introduction of survey.		Fasli 1216.		Decrease.	
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Dry	303,115	6,99,017	207,682	3,25,343	185,433	2,53,664
Garden	48,046	2,11,029	36,366	1,56,807	11,680	34,422
Wet	97,388	1,95,737	24,723	1,83,260	2,664	12,477
Total ..	448,547	10,15,783	268,789	5,65,220	190,767	3,50,563

Grass land is not included; the increase in grass would reduce the actual decrease in revenue to Rs. 3,30,561. This decrease led Mr. Garrow, the then Collector, under whom both divisions had recently been united, to advocate a revision of the assessment in the southern division, and upon the report of Mr. Hodgson, who, in 1807, examined

the district as Government Commissioner to ascertain the exact causes of the decrease, sanction was given to its reduction. The following extract from Mr. Clogstoun's report shows that other causes as well as the high assessment operated to cause a falling off of revenue, but it seems obvious that the rates were too high, especially on the poorer lands, at then prices. The lowest assessment was above 12 annas, whereas the recent settlement in 1881 has rated large areas at 8 annas, and smaller areas at 6 annas. While it is true that the seasons of 1214, 1215, and 1216 were extraordinarily bad and caused wholesale emigration, it must be noted that another great reason for emigration was the high rates in the southern division compared with the lower rates in Dindigul, coupled with an unusual tax on waste lands in 1215.

"It seems that during the years 1212 to 1217 the country south of the Nôyil suffered from continued bad seasons, that of Fasli 1216 being in fact a year of famine. The division was, moreover, exposed to intestine commotions caused by the rebellion of one of the Poligars, and, added to this, a most malignant type of fever—which, strange to say, was but little felt in the Northern Division—raged with exceeding violence throughout the country south of the Nôyil, as it did in Madura and Tinnevely. There were therefore not wanting causes, irrespective of any effect of the new settlement, which would fully account for a decrease in the revenue. The Board of Revenue, however, and the Government were inclined to attribute the alarming decrease as more especially due to the sudden enhancement of the assessments in Fasli 1212, and ordered an immediate reduction to the standard rates prevailing in the Northern Division. This reduction was carried out in Fasli 1217 by the Collector, Mr. Garrow."

The records of the operation are not forthcoming, but the result was a reduction of 37 per cent. upon the total dry assessments of the southern division, those on garden and wet lands being left untouched.

It seems probable that the reduction was mainly on the poorer lands, especially of Dhārāpuram and Karūr, since the assessments on these lands are now considerably more than 37 per cent. below the original average assessment.¹

The alteration was carried out by Mr. Garrow, the Collector, in Fasli 1216, both divisions having been united under him in one collectorate in 1895. Mr. Hodgson, who was present, says that the ryots received the news with joy, but, after all, the immediate benefit to them was largely discounted by the action of the Revenue officers. The revenue had largely fallen by reason of high assessments, poverty, bad seasons, and so forth, and it is obvious that a large reduction of the assessments would, at all events for one or two years, still more tell upon the revenue, and this was not to be endured. Hence the ryots were

¹ It has been found impossible satisfactorily to recover the exact rates fixed either in 1800 or 1807; this is not very important, since the immense number of rates found in 1875, and the history of the system, show that rates were freely altered subsequently to suit local circumstances. These changes were probably in the first twenty years.

induced to take up large areas of waste land which they did not want, while some lands, originally charged as grass lands at one-fourth of the assessment, were charged the full survey rates. In this way the revenue showed no falling off, but an immediate increase, the result being that the ryots paid the same as before but had more land. In 1830 Mr. Sullivan wrote as follows regarding the revision of 1807 :—

“ The work, from the shortness of the time at the disposal of the Collector, owing to the impending introduction of the village lease system, was badly and imperfectly done. Instead of assimilating the assessment of the two divisions, a reduction of 37 per cent. was made in the punjei assessments only, while the garden assessments were left at their original high standard, and to compensate further for a decrease in the revenue which the above reductions would have caused, the ryots were compelled to pay full rents for their waste grass lands instead of the usual rate of one-fourth of the assessment. The settlement of Faali 1217 was made under these arrangements, and the revenue for the whole district increased from Rs. 19,53,657 to Rs. 21,31,986.”

Practically, however, this hardship was of no long duration, for in 1816 the Collector stated that the ryots had gradually got rid of many of the lands they did not want, and in 1818 he stated that they invariably refused to give up lands with which they said they had been saddled, and that their real objection was an objection (elsewhere not unknown) to pay rent at all. The Collector also stated in 1830 that in 1816 they were relieved of the burden, but this remark must be read with his remarks of 1818, and with the notice below regarding the denial of complete freedom in the relinquishment of land.

The idea of a permanent settlement was however in favour, and Mr. Hodgson, while recommending a future permanent settlement of the district by dividing it into estates, as already proposed by Mr. Garrow for the northern division, where 195 estates were marked out, suggested that, for the present, village leases should be granted, wisely arguing that, as the country was still poor, and there was very much arable waste, it would be impolitic to settle the revenue for ever on the then demand. He seems also to have been doubtful whether the rates might not require lowering all round, as he twice states that such reduction might be beneficial, but he desired that it should, if necessary, be carried out by landlords or renters and not by Government.

In advocating the village lease system, the Board gave, as chief reasons for abandoning the ryotwari, that the new system of judicature was not compatible with it as likely to give too much trouble to the Revenue officers; that the demand would require to be lowered, which was financially impossible; that there was “ a general incompetency of individual ryots to pay in all seasons the money rents assessed on their lands;” that the charges of collection were high; and that tahsildars might give trouble. They proposed that the villages should be lump-assessed upon the survey rent, and that this should constitute the rental, which was to be farmed out to the head man or men, who were

supposed to assess individual ryots at rates not exceeding survey rents, to abstain from all oppression and injustice, to ease the ryots' burdens in case of bad years, and to pay all consequent deficits out of their own pockets from the profits derived from the increase of cultivation. It is unnecessary now to point out the fallacies which underlay this peculiar reasoning, for the system was of the briefest duration and a complete failure. The district was divided into a large number of petty farms (in the revenue sense of the word), which usually coincided with villages and seldom exceeded two or three; the renters were said to be generally head men, monigars, or chief ryots, and the leases were only for three years. The rents were fixed at the amount of the settlements of 1217, less a deduction for various reasons in the first year of under 4 per cent., which, however, was more than made up in the next two years, in both of which rents were higher than in 1217. The trifling amount of the first year's deduction, with the immediate enhancement of the rent, is a curious commentary on the admission that the district was in a poor condition, that its assessments pressed hard on it, and that its chief need was that of population, to supply the want of which "some encouragement was necessary to those renters on whose industrious exertions the improvement of the cultivation was to depend." As might have been predicted the leases were a complete failure, Mr. Garrow admitting that the rents were too high and that the renters were rapacious and had been guilty of innumerable abuses. Mr. Sullivan's remarks in 1830 are as follows:—

"The triennial lease which was formed on the average collections under the high assessments followed; and these efforts to draw a high revenue, under what was in fact a system of rack rents, left the country at the expiration of the lease in a state of exhaustion. The revenue fell from Rs. 21,14,960 to Rs. 18,59,342, and again to Rs. 16,92,283."

In spite of experience however, it was determined again to try the lease system preparatory to the introduction of a permanent settlement, and the Collector was ordered to draw up a fresh scheme for a longer lease. He accordingly submitted, in December 1811, a scheme by which the country containing 1,501 villages, was to be divided into 762 farms on a gross reduction of 12 per cent. from the demand of Paeli 1220. Meantime, however, the views of the Court of Directors had been converted in favour of the ryotwari system, and orders were received to go no further in establishing a permanent settlement; the correspondence of the next few years is curious, as the Revenue Board were bitterly hostile to the ryotwari system, and a decennial settlement was actually effected in a large part of the Coimbatore district in spite of the Court's orders.

But Mr. Garrow's health had now failed (*vide* Mr. J. Sullivan's letter of 16th January 1816), and he fell into the hands of several unscrupulous subordinates, who abused his confidence, and whose rapacity and extraordinary power of intrigue led to such notorious abuses

that in 1815 a commission consisting of Colonel Munro and Mr. J. Sullivan was appointed to investigate the affairs of the district.*

The chief result of the inquiry and of Mr. Garrow's ill-health was Mr. J. Sullivan's appointment as Collector; in December 1815 he cancelled the whole of the leases on the ground of universal fraud, it being notorious that many of the best villages had been under-assessed and the leases taken by the above-mentioned subordinates, their friends and adherents, while the deficiency was made good by over-assessing the other villages. The frauds may be judged from the fact that no suits were filed in the courts save only those of Cási Chetti; which he eventually withdrew. The ryotwar system was again introduced by Mr. Sullivan in Fasli 1225 (A.D. 1815), and has continued up to date, with, however, many modifications.

This being the era at which system was fairly introduced under the auspices of a comparatively moderate and fairly equalized demand, it will be well to recapitulate and to mention any defects. The system was that known as ryotwari; it had been in vogue from time immemorial, and was the growth of centuries (Sullivan), mere relics of the old village system being discoverable in peculiar revenue customs and oppressions; under former Governments the settlements were capricious, confused and heavy, but were largely evaded; under Macleod, Hurdís, and Garrow, the confusion was reduced to comparative order, the demands ascertained by survey and field settlement, moderated, regulated, and enforced; every ryot had his annual puttah based upon his varying holding of cultivated and grass lands, the entries therein depending upon his annual agreement, settled first at the dittam and afterwards at the jamabandi; he paid full rent for his cultivated land, and one-third or one-fourth of that assessment for the land held as pasture; his dry land had at first little or no sale value, and much of his nanjei was so highly assessed as to be equally valueless as transferable property, but most of the gardens and some wet lands had a good sale value, and were regarded by him as his "ádhinam" (ancestral estate); his assessments, at least on dry land, were moderate as compared with other districts. The theory of the system was that of individual holdings of specified fields, moderate and scientific assessment—a just proportion between the assessment and the produce of a field—and complete freedom of action to the individual. The starting point of the system was the "field," which was a definite, surveyed area, bearing a fixed and unalterable assessment: a ryot's holding consisted of such and such fields, and his payments were determined by the assessment on those fields. It was the land that was taxed and not the person, so that a ryot could, in theory, increase or diminish his payments simply and solely by changing the component fields of his farm. This excellent

* The printed report on the subject is to be found in the volume of Revenue Selections, and is worth reading as an example of the difference between modern times and the past.

theory was, however, vitiated by certain practices, which were partly the relics of ancient custom which had been too slavishly followed, partly the result of a faulty assessment. These practices and customs will now be mentioned.

It had been a former practice to obtain revenue *quo cunque modo*; e.g., if one ryot could not pay or ran away, the deficit was made good by forced contributions from the other ryots. The practice survived in several ways for some years after the British system was introduced; if a ryot "in affluent circumstances" wished to relinquish his land, he was not allowed to do so unless under the condition of taking up waste land paying an equal assessment, or unless another ryot would take it up; neither he nor a poor ryot could give up land freely, but only "bad and good together" in equal proportions; if ryots wholly relinquished their lands, other ryots were often obliged to take up those lands. Another objectionable practice arose out of the ancient system of sharing the produce; garden lands produced two crops per annum of valuable produce; hence the Government share, supposed to be 40 per cent. of the gross, was commuted into about four times the assessment on dry lands, although the increase was solely due to the ryot's energy and his capital sunk in digging a well. Then the survey and settlement was conducted so rapidly that there were very great inequalities of assessment, at least in the opinion of the earlier Collectors; this was probably the case, since operations were completed in the northern division in a little over a year, and in the southern division in about two years, while the revision in the latter division only occupied about four months; it was impossible, especially in the confusion of the days immediately following war and annexation, scientifically to settle so vast an area in so short a time. Hence many inequalities, which it was sought to remedy by granting lands on one-fourth assessment (grass lands), by permanent and temporary cowles, by entering cultivated lands as grass lands and grass as cultivated, by charging partial rates or full rates on garden lands, and similar expedients.

The practice of forced occupation soon died out, partly by the growth of better principles, partly by the demand for land which did away with the necessity for coercion, nor was it at any time general, but occasional. In 1823 Mr. Sullivan was able to say that coercion did not exist as a principle, and that what was wanted was a better practice on the part of the subordinates, who required to be bribed to grant men their rights.

There was also too great an inquisition into a ryot's personal circumstances; as stated above, the supposed or reported "affluent ryot" was refused the power of relinquishment; on the other hand, a supposed poor ryot was granted advantages, such as the grant of a field or two free of assessment for a year or two, the payment of dry land assessment instead of garden assessment, or of grass assessment instead of full assessment, or even the entire remission of his dues; e.g., in 1816

Mr. Sullivan reported that he regulated the Government demand for garden assessment by the quantity of water in the wells (about 27,000), and on waste land by the circumstances of the individual. These inquiries were made by the tahsildar or his subordinates, and the Collector could only depend on their reports; hence an admittedly open door for fraud, bribery, and manipulation of the revenue, in which the poorer ryots naturally suffered. Hence in 1817 Mr. Thackeray reported that, owing to these several uncertainties, the jamabandi was a scene of continual frauds and struggles leading to the debasement of the ryots, and even so late as 1832 Mr. James Thomas stated that remissions were granted according to the "supposed ability of the ryot," so that the jamabandi was a "scramble for remissions."

On the above foundations the Coimbatore ryotwar system was re-introduced in 1815, and has continued to date with frequent modifications on the principle of non-interference. The matters requiring detailed notice as having materially influenced the position of the ryot up to the new settlement in 1879-81, are as follow:—

- (1.) The patkat system, which refused the ryot complete freedom of relinquishment.
- (2.) Reductions of assessment.
- (3.) Remissions and cowles.
- (4.) Grass rents and payments for waste.
- (5.) The garden assessments.
- (6.) Second-crop assessment.
- (7.) Taccavi.
- (8.) The dittam, the jamabandi, and the puttah.

(1.) The customs and inequalities mentioned above led to the patkat or estate system introduced by Mr. Thackeray, as detailed in his letters of 4th October 1817 and 1st August 1818. It is also criticised in Mr. J. Thomas' letters of 17th January 1832, 14th July 1832, and Mr. G. D. Drury's letters and reports of 1st October 1833, 25th October 1834, and 11th September 1831, and is elsewhere alluded to. This was a departure from the field system to which the ryots were immemorially accustomed, and which was the starting-point of Macleod and Hurdia. Mr. Thackeray found or assumed that whatever the intention of the settlement, there was in practice a variety of inequalities and errors, and he considered that many fields were assessed at too high, many at too low, a rate. He also assumed that, in the fifteen years which had elapsed since settlement, these errors had to a great extent been rectified by the action of the ryots and of the authorities, chiefly in the matter of grass and garden rents, so that the possession of lands favourably assessed was balanced by that of heavily rated lands, and *vice versa*. He considered also, and very truly, that the continual struggle for favours, the evasion of rules, and the opportunities for fraud were debasing the ryots and the revenue officers, while the absence of permanency in the demand discouraged the ryots, who felt that any improvement, such as the digging of a well or the conversion of so-called grass

land into arable, was followed by a great increase in the Government demand. He further noticed that the demand varied both with the purposes to which a field might be appropriated, *e.g.*, grass, or dry cultivation, or garden culture, and with the circumstances of the ryot, and he broadly stated that it was the "ryotwar settlement only in name," and "that it taxed the ryot and not the land." Believing therefore that the then demand, *viz.*, about 21 lakhs of rupees, was as much as the district could pay, he proposed to limit the demand to that sum, to regard existing holdings or farms with their existing assessments as the revenue unit instead of the settlement field, and to assess ryots upon their estates for a considerable term of years, during which, without further increase of payments, they might dig wells and grow garden crops, convert grass into arable, and so forth. In case of division of the estates by inheritance, the apportionment of the demand upon the divisions should be made by panchayat, so that gradually, without any revision of the field settlement, each little estate would eventually be equitably assessed according to its productive power as gauged by the owners themselves or their predecessors in holding.

A further consequence of the supposed inequalities and the attempts at redress was the denial of freedom in relinquishment; assuming that the holding of bad lands was necessary to compensate a supposed advantage in good lands, Mr. Thackeray argued the justice of the rule that forbade a ryot to give up bad land without a due proportion of good land; just as a tenant in England would not be allowed to rent only the good fields in a farm, so a ryot ought not to be allowed to pick and choose his holding. Anticipating the argument that the unit of holding was the field, the assessment on which was regulated by its productive power, Mr. Thackeray assumed that the proper unit was the estate or customary holding, while admitting that much of the poor land was held by compulsion, and that if there were complete freedom the ryots would throw up lands assessed at about 2 lakhs of rupees, and would concentrate their attention and stock on the smallest extent of the best and lowest assessed land.

It was also urged that if freedom were granted, a ryot would crop a field to exhaustion and throw it up, and this argument is not without its weight.

The Revenue Board in their minute of 5th January 1818 supported Mr. Thackeray's proposal with some modifications, and submitted it to Government, observing that compulsion ought to be entirely done away with, and that if the system were not introduced a new survey and settlement would be advisable: Government gave a temporary sanction pending reference to the Court of Directors. The Court, however, apparently rejected the principle of the system in favour of the original fieldwar settlement system, and though introduced in name, only the objectionable part of it was adopted; the restrictive rules were accepted or retained, but the essence of the system, *viz.*, the permanency of

holding and freedom from interference, was rejected; hence though the country was nominally held in petty estates, yearly modifications were continuous. The following extract from Mr. Drury's letter in 1834, in answer to questions from the Imperial Government, gives an account of the working of the rule at that time:—

"When a *substantial* ryot wishes to relinquish any portion of his *patkat*, he communicates his intention to the *tahsildar* and is required to take a portion of waste paying an equivalent rent; he is not permitted to take a portion of a field, but must take the whole, good and bad together, it being the principle of the *patkat* system that the farm of every ryot should consist of an equitable proportion of good and bad, high and low assessed soils. If a ryot (*i.e.*, not a *substantial* ryot) wishes to contract his farm according to his means of cultivating it, he is required to give up a portion of good and bad lands together; he is not at liberty to select all the good and abandon the bad; in fact, as these lands generally lie intermixed and are blended together, they could not well be separated; and, if they could be separated, it would be unfair to allow him such an advantage over his neighbours without his consenting to pay a higher assessment on the lands he selects; but as the Government demand has been fixed on each field separately, according to its capabilities, the rent cannot be raised."

Similarly, in his report on the *jamabandi* of Fush 1242, he states that "a ryot whose means were known to be affluent could not throw up any part of his farm unless another ryot engaged to take it, or he himself agreed to occupy other land paying equal rent;" while a poor ryot was allowed to throw up land provided he gave up good and bad together; remissions were, however, granted for waste and "distressed circumstances." On a similar report in 1835 the Board promptly ordered him to put all ryots, rich and poor, under the same rule, *viz.*, freedom of relinquishment, subject only to the general restriction which compelled a relinquishment of good and bad together; this did away with a very great hardship to ryots of actual or reported affluence.

It is useless now to follow the arguments urged for and against the denial of freedom; it is sufficient to say with Mr. Babington (in 1839), who strongly approved of the restriction, that it was largely evaded by bribery, by throwing up good and bad and taking up only the good when the *tahsildar* was tired of seeing a diminished revenue, or by a sham division by brothers, when the one who took all the bad threw it up, and rejoined his brothers who held all the good. The restriction was gradually evaded and relaxed; so that in 1853 the Collector reported that the system no longer existed. The effect of the system in practice was slight, but so far as it went it was bad; had Mr. Thackeray's real scheme been adopted, agricultural improvement would probably have been hastened.

(2.) The permanent reductions were those of unduly high or objectionable assessments; the following table from Mr. Clogstoun's Settlement Report conveniently abstracts them:—

Full or year.	Dry.		Garden.		Wet.		Total.		Remarks.
Full 1217 (1807).	Rs. 6,58,497	A. P. 3 7	Rs.	A. P.	Rs. 17,103	A. P. 0 11	Rs. 6,75,600	A. P. 4 6	By Mr. Garrow in Southern Division. * This sum is the remission made on the total dry account of the Southern Division, nearly all of which is now in occupation. At the date of the remission only a little more than one-third was occupied.
Full 1237 to 1234.	10,831	3 7	697	15 1	75,992	1 5	87,511	4 1	By Mr. J. Sullivan for high assessed lands, including waste.
1800 to 1854.	22,033	0 0	....	....	....	....	22,033	0 0	Tax on palmyra in cultivated lands.
1834 to 1856.	....	....	1,57,579	0 0	....	....	1,57,579	0 0	Remission of a portion of the excess taxation on garden lands and of the total extra assessment on lands classed as gardens, but where the well was in a ruined condition.
1856 ..	....	....	....	....	3,027	0 0	3,027	0 0	On sanjei lands over-assessed in various taluks.
Full 1274.	21,972	14 7	....	....	331	14 4	21,404	12 11	On lands which were lying waste in consequence of over-assessment.
Do. ..	....	....	1,142	7 5	230	4 10	1,372	14 3	On wet lands in Pollachi taluk.
Do. ..	....	....	3,81,830	0 0	....	....	3,81,830	0 0	Remission of all extra assessment on garden lands beyond the highest dry rate of the village.
Full 1275.	3,739	10 7	....	....	....	....	3,739	10 7	On lands lying waste in Kollegal.
Total ..	7,16,184	0 4	4,41,249	6 6	96,684	7 6	12,54,117	14 4	

(3.) Remissions covered a multitude of difficulties. The grass remission has been alluded to as avoiding the difficulty of charging full survey rates, which were too high for the then state of prices; also that of the second crop under certain circumstances. Other remissions, including cowles, were much in fashion, especially from about 1820 to 1850, since which they have mostly died out; as pointed out by Mr. J. Thomas in 1832, the practice of wholesale remissions was necessitated by the patkat and compulsory holding system, and by the want of freedom in the matter of land relinquishment. The dittam too was the cause of many remissions; as shown below (*sub voc.* "Dittam"), the ryot agreed to take more land than either the season subsequently permitted or he himself had stock and capital to cultivate; hence a "scramble for remissions" at the jamabandi, when the Collector, rather than exhibit balances which he could not realize, got rid of the excess demand. Moreover it was immemorably the custom to regard the position of the individual ryot, and if he was reported unable to pay, he frequently

got remissions, such as of the entire rent for a year or more (Sullivan in 1824; cf. *Hukumnámah* of 1237), or of his waste land, or he was allowed to cultivate and was charged only grass assessment, or he got garden at half rates, and so forth (Thackeray, 1818).

The weight of the assessment at then prices was considerable, and its incidence unequal (Thackeray), so that various expedients were resorted to in order to retain the full area in cultivation real or nominal. In 1824 Mr. Sullivan laid down as a golden rule that the survey rates were maximum rates, and all deviations were in favour of the ryot, annual fluctuations being due either to increased area of cultivation or to "temporary booms in the way of remissions." Under Mr. Sullivan it appears that these remissions became the rule, as might be expected under the *patkat* system as adopted; he granted cowles temporary and permanent whenever it appeared desirable, a system which led to severe criticisms by his successors, by the Board, and by the Government. He defended permanent cowles by alleging survey inequalities (15th November 1827), and temporary cowles by the condition of various ryots, but it was pointed out that the former amounted to tampering with the principle of a fixed survey assessment (Board's Proceedings of 11th August 1828), while on the latter, except when granted for certain well-defined purposes, the Board remarked that "instead of a ryotwar system we have had one of temporizing expedients, as unsound as fictitious," while Mr. James Thomas (29th October 1830) stated that they had led to "a premature extension of cultivation; instead of good soils being thoroughly cultivated or other industries developed, capital has been attracted to mere extension of cultivation." Mr. James Thomas clearly saw that remissions were necessitated by the *patkat* system of restriction of freedom, and his letter of 17th January 1832 gives a graphic description of the non-system which prevailed; the practice, he said, was for talukdars to "induce ryots to keep lands by all means, even by grant of remissions," and they were the arbiters of the extent of holdings; hence much misery to the ryots and profit to the revenue subordinates who granted the remissions, especially as no fixed rule was possible, but remissions were granted according to the supposed or reported ability of the ryot; hence the annual settlement was a "scramble for remissions," especially as grantees were thereby enabled to undersell other ryots; this led to corruption and venality. Hence he wisely recommended a return to free ryotwar system proper, arguing that the ryots were the best judges of what they could occupy and that in this case *kāyam* (permanent) cowles and other expedients and remissions would be got rid of. But though the Board and Government admitted the inadvisability of indiscriminate cowles and remissions, and ordered their abandonment and revocation, they adhered to the restrictions of the *patkat* system; they laid down that except on particular occasions, to be reported, the only cowles should be for the reclamation of waste and conversion of dry into garden lands, but

retained the objectionable restrictive rules. Hence the remission system continued at least in part: Mr. Drury reported in 1834 that remission was granted for waste if in excess of the ordinary amount of fallow, and if the ryot's circumstances required it, and he objected to a permanent assessment for, say, 20 years at patkat rates, on the ground that remissions were necessary; "when a ryot becomes insolvent and is precluded from cultivating his land, no demand is made" (11th September 1834). The gram cowle, however, which allowed waste to be cultivated with gram for a single year at about one-fourth rate, and which had been abused so that good lands were relinquished for a year and then taken up on gram cowle, and retained on this tenure for several years, was restricted to lands waste more than five years; it was finally interdicted altogether in 1838. But, though the abandonment and revocation of permanent cowles was ordered, the practice still seems to have continued, for in 1839 Mr. Drury stated that he would be glad gradually to revoke all *kāyam* (permanent) and *munāsib* (discretionary) cowles, and that if this could not be done without throwing lands out of cultivation, there should be a reduction of assessments; he thought, however, that the opportunity was unfavourable for raising a rate of settlement which had "in most instances been long established," and he divided into fourteen heads all cowles hitherto granted, which entitled to exemption from paying the survey rates, viz., (1) for jungly and unhealthy lands liable to ravages by elephants, etc.; (2) for forest clearings; (3) for lands covered by floods with sand; (4) for highly-assessed *kallar* (salt) lands; (5) for high lands irrigated from wells; (6) for high lands irrigated by *picottah* from tanks; (7) for lands under petty irrigation works and wells out of repair; (8) for gardens having wells with rocky bottoms; (9) for gardens with brackish wells; (10) for gardens having a deficient water supply; (11) for deficiency of produce; (12) for deficiency by measurement; (13) for flooded lands; (14) for orchards on wet lands. On this, Government (29th May 1841) reiterated the former orders as to the abolition of cowles and adherence to settlement rates, and desired that proper steps should be taken to reduce any assessment that might be too heavy. They also agreed with the Board that cowles for new land ought not to be given to ryots who had not fully cultivated the land in their possession, justly arguing that stock and capital are required to take up old waste and poor lands, and that, until his old land was thoroughly cultivated, it would be unwise to divert stock and capital from it. These cowles, considered as permanent, now died out; but the *munāsib* or discretionary cowles, otherwise remissions granted at the will of the Collector, were very numerous; in 1853 the Collector reported nine classes of occasional remissions, and two classes of fixed remissions. The former were (1) for fields or portions of fields left waste; (2) for withered crops; (3) and (4) for inundated lands; (5) for non-cultivation of second crop; (6) cowle remissions; (7) for privileged classes; (8) for wet lands cultivated with dry crops

and for grass lands; (9) for miscellaneous purposes. The fixed remissions were only on highly-assessed lands, on gardens with useless wells, etc., for reductions authorized for Coimbatore. The former class were chiefly seasonal remissions, granted usually in adverse years; the exceptions were cowle remissions, or the reductions granted to holders of regular cowles; *teāgāri*, or reduction immemorially granted to Brahmans and Mussulmans because these classes do not usually cultivate their lands personally, the grass-land remission, and, under "miscellaneous," the remission for land used as seed beds; for ryots who repaired tanks and so forth. Upon this report the Collector was ordered to discontinue remissions on puttah fields not cultivated or not sown, and on seed beds, while for withered crops it was laid down by the Board that individual scrutiny should be abandoned, and that remission should only be by a percentage reduction on whole taluks, or groups of villages, or for a crop, and that this indulgence should only be in exceptional years, assessments having been reduced and modified. It was desired to free the ryot from subservience to the diets of inferior officers, and to simplify the system. Puttah fallows were also no longer to receive remission, the rule being that a puttah holding should be paid for in its entirety. The only exception was in the case of wet lands for which the water-supply failed by no fault of the ryot. The result of these orders was that in 1856 the Collector was able to report that "discretionary remissions" were nearly extinct; the relinquishment of land was absolutely free, and with the *dittam* had departed the practice of inducing ryots to hold more than they could cultivate, so that the rule was "pay or give up." Hence in ordinary years the only remaining deviations from the survey assessment were in the case of regular cowles and second crop, *teāgāri* and grass land remissions; also that granted upon failure of water-supply in any public irrigation works. The regular cowles were usually granted either for digging wells, for cultivating old waste, or lands in jungly tracts; they generally ran for five to ten years at a rate from 0 to full assessment. In their order of the 28th September 1857, Government, while approving of the Board's rules, took occasion to deprecate the general use even of regular cowles, especially when used to "bolster up an excessive assessment on waste lands or to foster the growth of a needy class of indolent squatters and the extension of slovenly husbandry;" the proper use of cowles was in reclamation of land otherwise uncultivable. The Board had previously suggested that until all ordinary waste lands were cultivated, it was unnecessary to foster the cultivation of forest lands, and the above orders, coupled with the almost immediate abolition of the heavy garden rate and the great rise in prices subsequent to 1855, almost extinguished the cowle system. Second crop, *teāgāri*, and grass land remissions died out with the old settlement, the first by the introduction of a better system (*vide infra*), the second by the rule that land when parted with by its Brahman or Mussulman owner to a non-privileged person should be fully assessed, so that it had dwindled almost to nothing by 1875, and the

third by the conversion of the grass lands into arable, caused by the demands for food of an increased population upon a limited area.

The only remissions not cancelled or obsolete were certain of the seasonal remissions, which remain to this day, and will be mentioned below in describing the present position of the ryot.

(4.) The grass rents of the first 50 years were very important items both to the ryots and the Government. There were two classes—one called *ayen pilluvari* or *pancham hissa*, and the other *paravu pilluvari*; the former was not an assessment, but a remission of three-fourths of the regular survey assessment of 1801 on one-fifth of the puttah holding; the latter was the rental of the unoccupied waste lands, which were not held by any ryot, but which were let out for grazing purposes only. The former system arose as follows:—Under former Governments, all land, if left waste, paid a small tax of about 1 to 4 annas per acre; at the settlement of 1801 Macleod fixed one-third of the survey assessment as the payment for occupied waste in the northern division; Hurdie retained the old rate in the southern division, but in 1805 (this was raised² to one-fourth of the assessment, and remained at that in spite of the Board's orders to reduce it.

Mr. Clogstoun has clearly summarized the history of this remission as follows:—

"Pancham Hissa or Ayen Palla Remission.—This is a remission of three-fourths of the larina assessment on certain lands held for grazing purposes. Under the old rules of the district a ryot was allowed to hold on one-fourth assessment an area of land the full assessment on which did not exceed one-fifth of the total assessment on the rest of his holding. The land so held was considered part of the ryot's puttah lands, and could not be taken from him as long as the assessment due on it continued to be paid, nor could the assessment be raised above one-fourth as long as it remained uncultivated.

"I do not gather that the indulgence above described formed part of the principle of the original settlements, at least to the extent noted above. Under the Macleod's and Hurdie's settlements a remission to the above amount was allowed on lands held for grazing purposes, but the ryot seems to have acquired no right to the lands and was apparently obliged to resign them to any other ryot willing to cultivate them, unless he himself consented to pay the full charge. The further indulgence of permitting him to hold a fixed portion of land at the reduced rate without having to surrender it on demand of another ryot wishing to cultivate appears to have been added by Mr. Thackeray (1817) and continued by Mr. John Sullivan as a means of bolstering up the puttah system. With the power of reducing the assessment on a ryot's farm to the extent of three-twentieths ($\frac{3}{20}$ of $\frac{1}{5}$), a power which was in almost all cases exercised, the difficulty of enabling a ryot to keep up his farm intact was considerably lessened. With the decay of the

² The Sub-Collector considered that by assessing the grass lands "the value of cattle would be raised, and consequently that of the produce of the soil," and that this would be "a sure mode of bettering the circumstances of its inhabitants." This mere view did not commend itself to the Board.

patkat system went the necessity for this exceptional indulgence, and for the past 30 or 35 years no new lands have been permitted to be taken upon the punchan hissa tenure, and all old lands held on this tenure have been fully assessed if brought under cultivation. No other interference with the system however has taken place, and the large amount of this punchan hissa land which has been brought under cultivation during the past 35 years and rated at full assessment, which if kept as grazing land would have continued to pay no more than one-fourth of the amount, seems conclusively to show that it is more profitable in the ryot's opinion to cultivate and pay the full assessment than to keep the land for grazing purposes only and pay one-fourth of the assessment. It seems questionable, therefore, whether the continuance of the special remission is either necessary or desirable.

"The appended statement shows the amount of remission (at three-fourths of full assessment) made on punchan hissa grass lands in each year—1232 (1822-23) to 1283 (1873-74). It will be noticed that in the last 21 years the amount annually remitted under this head has fallen from Rs. 1,01,862 in 1263 to Rs. 21,252 in 1283."

Year.	Remission.	Year.	Remission.	Year.	Remission.	Year.	Remission.
	RS.		RS.		RS.		RS.
1232 ..	3,28,124	1245 ..	4,22,961	1258 ..	1,15,813	1271 ..	72,012
1233 ..	3,75,036	1246 ..	2,73,852	1259 ..	1,13,493	1272 ..	68,808
1234 ..	3,60,860	1247 ..	2,34,280	1260 ..	1,10,301	1273 ..	64,342
1235 ..	3,15,886	1248 ..	2,18,082	1261 ..	1,07,926	1274 ..	58,556
1236 ..	3,10,394	1249 ..	2,07,192	1262 ..	1,04,587	1275 ..	54,076
1237 ..	3,23,149	1250 ..	1,98,389	1263 ..	1,01,062	1276 ..	51,092
1238 ..	3,62,118	1251 ..	1,89,525	1264 ..	96,108	1277 ..	47,424
1239 ..	3,74,615	1252 ..	1,69,249	1265 ..	93,226	1278 ..	44,814
1240 ..	3,87,776	1253 ..	1,41,016	1266 ..	89,163	1279 ..	42,266
1241 ..	4,19,504	1254 ..	1,38,065	1267 ..	86,393	1280 ..	40,199
1242 ..	4,65,362	1255 ..	1,30,699	1268 ..	82,204	1281 ..	36,226
1243 ..	4,58,289	1256 ..	1,24,061	1269 ..	76,684	1282 ..	22,561
1244 ..	4,43,972	1257 ..	1,19,622	1270 ..	74,289	1283 ..	21,252

The remission amounted in 1818 to Rs. 3,22,536, rose to Rs. 4,22,961 in 1835-36, and fell to Rs. 2,73,852 in 1836-37, probably because of the Board's order of 29th October 1835, that the remission on all land held on grass tax in addition to the regular one-fifth should be discontinued and full rates charged; from that time it steadily decreased till in 1873 it was only Rs. 21,252, and was finally abolished at the settlement in 1880-83. It will be noticed that it was in reality a 15 per cent. remission from survey rates.* For other remarks, see "Agriculture" *sub* *roc*, "Pastures." The second form of grass revenue (parava pillu) was a true tax also amounting to one-fourth of the assessment; the unoccupied land was let out to whatever ryot would take it and in any quantity, and was held for a year, or longer if no one wanted it for cultivation. It amounted occasionally to about a lakh of rupees, but rapidly fell after 1863, when the waste lands were taken up for cultivation, so that in

* E.g. on a farm paying Rs. 100, a grass remission on one-fifth (Rs. 20) was allowed to the extent of three-fourths (Rs. 15).

1872 the amount was only Rs. 151. It was found that the richer ryots, sometimes only one or two, intentionally kept lands out of cultivation for this purpose, and retained them for grazing "to the exclusion of poorer ryots who were willing to cultivate, but afraid to come forward" (Clogstoun). This was noticed by several Collectors, and in the Dhārāpūram taluk it was early found necessary to assess at full rates ayan pillu lands occupied by rich ryots beyond the customary one-fifth, since they kept poor ryots from getting the land.

Regarding payments for waste, it may be said briefly that the rule under former Governments was various; Tipū appears to have ordered that all occupied land should pay full rates, the grass rent for unoccupied being retained. Tipū's practice was varied in this century by allowing grass remission on occupied waste up to one-fifth of the holding, the remaining fallow being after 1835 fully charged. The practice of fallowing is of immemorial antiquity; the usual amount of fallow is about one-seventh of the occupied area, but in earlier days it apparently bore a larger ratio, rising to one-third in Pollāchi (Buchanan). As stated above, the grass remission on occupied land gradually decreased and was abolished at the new settlement in 1881; the present practice is to charge full rates for all occupied land, whether cultivated or waste. The grass rent on unoccupied waste has been described *supra*, *sub voc.* "Parava pilluvāri."

(5.) The garden assessments were the subject of immense correspondence; originally based upon a share of the crop, they formed an undue burden on the ryot, since he shared with Government the profit on his own capital in spite of the extra labour involved in well irrigation. The assessment averaged about four times that on dry lands, but was higher in the south than in the north. It was usual to grant favourable terms for the first year or two, and in 1834 Mr. Drury reported that five-year cowles were granted, *viz.*, ordinary dry assessment for the first two years, gradually increasing to the full rate in the fifth year. There were different modes of charging the lands; in some taluks whole fields were classed as garden irrespective of the irrigable area; in others only the amount actually irrigable; the former rule was found to be unworkable as it was often equivalent to doubling the rates, and various expedients, such as charging half rates or dry rates on the non-irrigable area, were resorted to; the irrigable area was sometimes determined by the quantity of water in the well, sometimes by the area ordinarily irrigated. The circumstances of the ryot were another factor in the charge, so that there was little certainty for the cultivator. The following extracts from the Hukumnāmah of Fāsi 1343 are worth perusal as showing the minute inquiries necessitated by the system; they refer to gardens only:—

"When three-fourths of a field of from 4 to 10 ballahs is cultivated with garden crops and the rest with paupai or is fallow, it is charged full rent; "

¹ *I.e.*, garden rent for the whole

similarly, if half with garden and half with two crops superior punjei, such as cholam and cotton.

"If a garden measures 2 to 10 bullahs, and only a small portion is cultivated with garden crop, and the rest with punjei or kept fallow from unfavourableness of season, half rent has hitherto been charged. Rain has now fallen and all wells have plenty of water; hence all lands can be fully cultivated and will be charged at full rent. But if from any cause a well has failed and only punjei has been raised or the land has been left waste, then only half-rent is to be charged as "bāg-punjei," provided the proportion of punjei exceeds one-fourth of the area.

"If rich garden lands are cultivated with two crops of superior punjei (cholam and cotton), and the wells are purposely left without repairs which the proprietor is able to make, then full rent is to be charged.

"If the soil is bad or the well cannot be repaired, so that only one crop of inferior punjei can be raised and not a superior sort, then half garden rent or garden punjei rate is to be charged.

"If patkat gardens are left waste, the whole of the ryot's cultivation in that and other villages is to be examined, and if three-fourths of the total patkat is cultivated with garden crops and the remainder left waste, the waste is to be charged full rent.

"A punjei field taken up by competition* for garden rent, but not cultivable with garden crop, but only with one punjei crop, is to be charged half garden rent. Also if a ryot's punjei has been acquired on competition by another in order to convert it into garden, but the new ryot has not converted it, and is willing to give it up to the former proprietor, half garden rent is to be charged to the original proprietor; if he is not willing to give it up, then full rent to the holder must be charged."

There was however incessant change, and one Collector treated gardens in one way only to have his expedients criticised and altered by his successor. The problem was to show the largest possible increase of revenue, and the temptation to charge full rates for garden lands was checked by the certainty of discouraging an increase in well-digging, and of the abandonment of many wells. In practice many remissions and reductions were granted, and wells steadily increased, Collectors being fully aware that "nothing but cultivation from wells can secure the people of this district against heavy loss and very often ruin, consequent upon successive seasons of severe drought" (G. D. Drury, 14th July 1832); the number of wells in good order increased from 22,000 in 1801 to 28,719 in 1821, 35,107 in 1852, and 58,385 in 1882. All gardens were from the beginning saleable, and were the subject of the peculiar form of property known as *dākhnam*, by which a ryot who had given up a garden could reclaim it, even if it had passed into other hands, upon paying the value of any improvements as decided by a panchayat; neither time nor absence affected his ownership, which was that of absolute private property, and this right was always recognized by former Governments and continued under the British (*vide* report of 29th May 1819).

* In Feb. 1850 the rule permitting this competition was cancelled.

The impolicy of taxing improvements, especially wells which act as a famine insurance, gradually became evident; so early as 1818 the Board proposed to declare that in future all dry land converted into garden at the sole expense of the ryot should not be liable on that account to any additional charge, but this liberal suggestion was in advance of the times, and was not carried out. The putkat theory and the idea of "once a garden always a garden," seem at first to have stood in the way of equitable rules; a dry field if made into a garden was promptly charged garden rates, but if a garden failed, even by reason of the springs drying up, the ryot got into difficulties. In 1833 Mr. Drury reported that gardens were everywhere being held and paid for as gardens though they had ceased to be cultivated as such, while the extent charged with garden assessment was complained of in several taluks; gardens that had failed as such were, up to 1825, classed as gardens converted to dry and assessed accordingly; after that they were again classed as gardens, and remissions given, which varied according to the circumstances of the cultivator and the necessities of the case. He proposed in future to settle the demand at the highest dry rate of the village upon gardens no longer cultivable as such, and that in all gardens the extent charged as garden land should in future be the area "within the range of the well," the rest being charged as dry. This was approved of with the alteration that the dry rate appropriate to the land should be charged. The rules left almost everything to the discretion of the revenue subordinates, and were therefore very objectionable; it was not till Mr. E. B. Thomas took up the subject in earnest that more liberal views prevailed. Owing chiefly to his advocacy, a rule was passed in 1852, and was carried into effect in 1854, whereby all lands watered from *new* wells were charged only the ordinary dry rates, or, in other words, were not interfered with; all extra assessment on gardens with ruined wells was struck off, and even if the well was repaired no further charge was made; at the same time 12 per cent. in the northern division and 15 per cent. in the southern were remitted on all old gardens. The reduction amounted to Rs. 1,57,579, while improvement was so stimulated that in three years 3,480 new wells were dug and 1,008 old ones restored at a cost of 6 or 7 lakhs. In 1864 the matter was again brought up; the Collector pressed for the concession of 25 per cent. upon the *old* gardens as recommended by Mr. Thomas, on the grounds that—

"(1.) Owing to the concessions of 1852 in favor of new well lands, inferior and heavily taxed old gardens had been extensively relinquished.

"(2.) Owing to its physical conformation, Coimbatore was very deficient in irrigation; it was politic therefore to give every encouragement to private enterprise engaged in supplying the defect.

"The Collector's proposal was supported by the Board, but Government, while acknowledging that the necessity for relief had been clearly shown, could not admit that the 25 per cent. reduction had been proved to be the proper measure of relief, and directed that the assessments should be reduced

in all cases to the highest dry rate of the village."—(Board's Proceedings, No. 2502, dated 16th September 1876.)

This conceded more than could have been hoped for, especially as in some cases the then existing highest dry rate of the village was below what would have been a suitable dry assessment had the land not been gardens, since "all but the dry gravelly uplands (in the village) may be under well cultivation, and the assessment of the uplands is quite inapplicable to the rich lands in the villages." The remission amounted to Rs. 2,81,850 per annum, and, with the former concession of 1854, gave a great impetus to well-digging and cultivation, so that whereas the number increased by 13,107, viz., from 22,000 to 35,107, in 54 years; it increased by 23,278, viz., from 35,107 to 58,385, in the next 30 years, and this though the best situations had of course been taken up by the earlier 35,107 wells. Some few (say 2,000) of the latter wells were however old wells taken into use or repaired upon the reductions of assessment. There is no trace whatever of these wells having at any time been called "Sircar (Government) wells," as supposed in 1878; on the contrary, every Collector has spoken of the gardens with their wells as being essentially and peculiarly "private property," and they were the very lands above all others that, under the influence of the *adhinam* right, were especially such. Twenty-two thousand wells were found in use when the district came under the British in 1709, and these were the subject of this absolute private proprietary right (*adhinam*); every well that was subsequently dug was dug solely at the ryot's expense and did not cost Government a single rupee. It is thus obvious that the settlement proposal in 1878 to reimpose a somewhat higher assessment was erroneous in principle as well as policy, and was rightly rejected by Government in G.O., No. 1964, dated 6th December 1878, paragraph 6, irrespective of the distinct promise made in 1864 "that the reduced rates would be subject to be dealt with on a general revision of assessment in the same manner as the assessment on other lands, but that such revision would be irrespective of any advantage derived from the wells" (G.O., No. 571, dated 5th April 1864, paragraph 16). The ryots are therefore confirmed for ever by the G.O. of 1878, in the position in which the concession of 1864 placed them, viz., absolute freedom from charge for any improvements carried out solely by themselves. They pay only the rate that they would have paid had the land been dry land wholly unimproved, and many, owing to the mode of action in 1864, probably pay even less than they would have paid had the well never been dug.

Other Collectors besides Mr. Drury (*vide supra*) have commented on the vital necessity of wells in this district, and the fact that this district has far more wells than any in the Presidency in spite of its peculiarly hard and rocky subsoil, and geological character, corroborates their opinion. The following modern quotations are important; the first, written in 1875 by Mr. Clogstoun before the famine of 1877, was pro-

phetic; in the famine of 1877-78 the wells and wet lands saved the district, especially the real ryot class, from probable ruin :—

"I recur to the consideration of the second period of bad seasons which Coimbatore has experienced, to point out that the district is at this day almost equally liable to exactly similar sufferings. If such a misfortune should again occur, it will be to the wells, which the liberality of Government has helped the ryots to dig, that it will have to look for the security of its revenue, and the succour of its people."

The second quotation was written at the close of the famine by Mr. W. Wilson, then Acting Director of Revenue Settlement :—

"The conditions which led to the concessions of 1854 and 1864 still exist: 'it is to be borne in mind that in Coimbatore it is upon the well lands that the progress and prosperity of the ryots mainly depend This year, but for its wells, the district would have been reduced to the greatest distress and the Government would have lost a large portion of its revenues;' (Extract Minutes of Consultation, No. 1298, dated 6th October 1854).

"The experience of the last two years has shown that not even its wells can save Coimbatore at times from 'the greatest distress,' but every encouragement should be given to the extension of an enterprise that must give the ryot an ample margin and enable him to tide over more easily the hard times that must sometimes come upon him."

(6.) The second-crop assessment was a complicated matter, and led to much correspondence between the Collector and the Board. The matter has been clearly set out by Mr. Clogston, whose remarks are as follow :—

"The principal sources of irrigation in Coimbatore are the Bhavani, Noyil and Amaravati rivers, and the rain-fed tanks. A consolidated assessment was at the original settlement of 1801 imposed on the greater part of the irrigated area under the rivers: but about the year 1832 the levy of a second-crop assessment in cases where no second crop was raised, was discontinued everywhere save under the Kalingarayan channel. A portion of the consolidated assessment was taken as representing the assessment on a first crop; and with the exception of the Kalingarayan lands above alluded to, the additional assessment was only levied in the event of a second crop being grown. The concession was even greater in some cases than is here stated, for in lands under the Noyil river the charge for a second crop was only imposed when the second crop was one of the following products: areca, cocoa, betel-vines, sugar-cane, turmeric or plantains, a second crop of rice being allowed free of charge; while in lands irrigated by the Kolliveli ancient no charge whatever was made except for lands under coconut or areca-nut trees planted. The limitation of the charge for second crop to certain special products, *other than rice*, has nothing to recommend it, and I do not gather from a perusal of the records of the district that it was intended by Mr. John Sullivan, the Collector, under whom the consolidated assessment was abrogated. The following paragraph from the Collector's Jamabandi Report for Fash 1275 gives further particulars as to the mode in which a second-crop charge is collected throughout the district :—

(4.) In Coimbatore and Palladam taluks the lands originally assessed with two-crop rent under the irrigation of the Noyil river are liable to pay the enhanced rate, when superior descriptions of crop, such as 'drupère' or orchard, plantains, betel-vines, sugar-cane, and turmeric are raised; but when the land is cultivated only with ordinary wet grain (paddy), be it one or two crops, one-third of the fixed assessment is remitted, and brought under the head of Fasal Cummae. The same practice obtains in Pollachi taluk also. In Dhārāpuram it is otherwise. When two-crop land is cultivated with a single crop of paddy a remission of assessment is made at 10 Canteroya fanams, or Rs. 2-15-0 per cawny. If cultivated with any of the superior description of products above enumerated, or if two crops of paddy are raised, the full two-crop rent is levied. This practice prevails in Udamalpet taluk also, with the exception that instead of Rs. 2-15-0 per cawny, one-third of the two-crop rent is remitted when the land is appropriated for a single crop of paddy. In Setyamangalam taluk those nanjei lands which were originally assessed at two-crop rent are liable to pay that enhanced rate only when 'drupère' or orchard crop is raised; but when applied to the cultivation of other products, whether one or two crops of paddy or plantain, &c., a remission of one-third of the two-crop rent is granted."

The practice described by the Collector in Faali 1275 survived until the introduction of the new settlement, when the curious old custom was done away with, and an easier and more business-like system introduced, for which see *infra*.

(7.) Taccavi, or annual advances to aid current cultivation, was never much in vogue; assessments were moderate, and all Collectors objected to the grant on the ground of its fostering mere pauper cultivation, and admitting room for fraud, coercion, and other irregularities; moreover it did not bear interest, and was therefore unfair to the tax-payer in general. In 1856 Mr. Thomas stated that "taccavi, a fruitful source of evils, has been stopped for some years, and is not asked for now."

(8.) The dittam and jamabandi were the annual settlements, of which the former was abolished in 1858, and the latter still continues.

The dittam (arrangement or settlement) was "in theory an account taken by the native revenue servants, at the commencement of the cultivating season, of the land that the ryots intend to cultivate, and what of the previous holdings they intend to give up. In practice, however, it was accompanied with inducements and injunctions to take up larger extents of land than the ryots had the means of cultivating, in order to make a great show on paper, and the ryots used to consider themselves obliged to cultivate what was then saddled upon them" (Board's Proceedings, dated 9th July 1858). Illustrations of the above practice may be seen above in the enforced occupation of lands after the great reductions in 1807 (see Thackeray and Sullivan), and in the rules of the Hukumnámah which enjoined tahsildars by all means to induce ryots to take up land relinquished by other ryots.

The dittam was thus merely the cultivation proposals or engagements of the ryots made in April or May for the coming season, and as this was very uncertain, it became customary at the jamabandi to make all kinds of abatements, which, though nominally for reasons arising out of the season or for "unavoidable causes," really included other reasons, such as the reported insolvency or poverty of the ryot and so forth. These abatements were made at the jamabandi, which was at the close of the cultivating season, and was therefore the "scramble for remissions" alluded to by more than one Collector. But when on the one hand the ryot obtained greater freedom from all restrictions, and on the other was refused remissions, the dittam became useless, and was consequently done away with in 1858.

The jamabandi, or settlement proper, determined the revenue after all deductions had been made, and was properly preceded by elaborate village to village enquiries by the tahsildars, who were subsequently aided by peshkars or revenue inspectors. On the reports of these officers at the jamabandi the accounts were made up and closed, and puttahs issued, which were thus mere bills for the amount due by each ryot, and not title-deeds for lands. As permanency and fixity increased, especially after the abolition of the dittam, and the importance of the jamabandi as a remission scramble diminished, the money entries in the puttahs became of less and the land entries of greater relative importance, so that in Coimbatore the puttah is now regarded rather as a title-deed, than as a bill. A sketch of a Coimbatore jamabandi, as it is, will be found below.

The kistbandi, or scale of instalments, used to comprise eight, from November to June, in the following proportions, viz., 5, 10, 15, 20, 20, 15, 10, 5 per cent. A few years ago the Board proposed a kistbandi of six instalments from November to April in the following proportions, viz., $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$, and $\frac{1}{4}$; the Collector said simply that there was no objection, and the new arrangement was accordingly introduced and subsists to this day. The Board's proposal seems to have been for this and other districts; the data for this particular district are not known. While the former was more favourable to the ryot as demanding only 15 per cent. instead of 25 before 15th January, it was more difficult even than the present for the collecting and receiving officers.

All the principal points and modifications have now been noticed; the system as it was at the close of Mr. E. B. Thomas' administration continued practically without alteration till the new settlement of 1879-82, while the changes effected by that were rather in the introduction of accuracy and scientific method than in substance. To recapitulate: it will be remembered that when the British assumed the reins the revenue system was in great confusion; the accounts were hopeless and the rents excessive; bribery and speculation were the rule instead of the exception. Wet lands paid an enormous assessment, gardens a very high one, and dry lands a high rate, which was reduced

by frauds in the measurement. Macleod and Hurdie remedied these errors and introduced system; the former measured the dry lands and fixed the field assessments, but finding the result excessive, he took the village standard and the average demand as his unit or guide, and distributed the total over the fields by a process of reduction from his theoretical assessments; he maintained with some reduction the high rates upon wet and garden lands. The latter assumed a share, commuted it into money, and applied it to his measurements without regard to the former demand. Waste lands in the ryot's possession were always charged for after the first year or two, this being customary in the district. The rates in both divisions proved high and unequal; the grass assessment, which gave an abatement of 15 per cent., was practically a remission, and in the southern division a very great reduction, amounting to 37 per cent. on the assessment, was carried out in 1807. The confusion of the triennial and abortive decennial village rents followed, but in 1816 the ryotwar system was again introduced. Owing however to the high and unequal rates, to the restriction upon improvements caused by the garden rates, and to the incessant interference of Government officers and consequent hardship to the ryots, Mr. Thackeray, in 1817, proposed his *patkat* system, by which existing holdings were to be treated as units, ryots were to hold these and not separate fields, were not to be allowed to give up lands unless in equal proportions of good and bad together, were to pay only their existing assessment for a long term of years, whatever improvements they carried out in the way of well digging, &c., and were thus to be freed from all interference, taxation of improvements, coercion, and demoralising remission. Government accepted only the restrictions, which were practically of long standing, but did not grant the permanency of the then assessment, so that high rates and consequent remissions still continued. But successive Collectors were instructed to give the ryots every relief consistent with good custom, and considerable reductions were made in the assessments, especially on the wet lands. Still more liberal views gradually prevailed, restrictions were removed, and the tax on improvements relaxed, and finally wholly done away with; this freedom, with the concomitant rise of prices, gave the ryots a very moderate assessment and enabled large areas to be brought under cultivation without the necessity for cowls or for remissions except in calamitous years. The field became once more the unit of holding, and any ryot was free to give up any field at will, or to take up any that might be unoccupied; he paid the assessment on each field that he occupied, and could cultivate it or leave it in grass or fallow as he pleased; the assessment depended on the soil, not on the crop, so that any crop could be grown without any interference; provided he paid his assessment regularly to the village *monigâr*, he needed not to see a revenue officer's face; his cultivation lease became absolutely permanent (as indeed it always has been in theory in Coimbatore, and in

practice since the British administration), and was only subject to alteration either at his own will in any year, or upon any general revision of assessments; in the latter case any increase is entirely irrespective of any advantage derived from an improvement made solely at the ryot's own expense, such as a well, tope, &c. This has been the case since 1864.

It became, however, necessary to resurvey and resettle the district in common with others, as the old *peimash* (survey and settlement) was rather out of date, and a good many errors, both in area and assessment, were suspected.

CHAPTER VI.

NEW SETTLEMENT.

Its Theory.—Preliminaries.—Field Survey.—Details.—Settlement.—Preliminary Scheme.—Mr. Clogstoun's Report.—Abstract of ditto.—Preliminary Sketch.—System of his Proposed Settlement.—Method of Field Classification.—The Block System.—Views of the Director, Board, and Government.—Classification of Total Area.—Perambokes.—Soils.—Classes and Sorts of Soils.—Grouping of Villages.—Mr. Clogstoun's Views.—Director's Suggestion and Government Orders.—Field Valuation.—Outturn.—Cultivation Expenses with Tables.—Commutation Rate.—Method of Calculation.—Result.—Deduction for Bad Seasons, &c.—Criticism of Director.—Money Rates.—Mr. Clogstoun's Tabular Statements.—Final Table of Rates.—Second-crop Assessment.—Abolition of Petty Exemptions.—Recapitulation of the Scheme.—District Results of New Settlement.—Table of Villages.—Areas (Comparative).—Abstract of ditto.—Acreage by Taluks.—Table of Areas and Assessments (Comparative).—Table of Areas and Assessments by Rates (Comparative).—Incidence of the Assessment Talukwar.—Table of Soils by Rates Talukwar.—Table of Double-crop Lands Talukwar.—Net Results.—Details of Settlement for each Taluk.—Present System.—Position of the Ryot.—Jama-land.—Table of Annual Revenue from 1799.—Quinquennial ditto.

THE new settlement is similar to that originally carried out from 1800 to 1802, and differs chiefly in the scientific accuracy which has now been possible. It is a combination of Macleod's and Hurdie's plans, for while its basis is theoretically, and to some extent actually, a series of rates determined by examining the capabilities of the soil, and the commutation of the theoretical Government share (half the net) into money (Hurdie), yet the practice has largely been to disturb existing rates as little as possible consistent with due system and equality in the incidence of assessment (Macleod), adding such increase as might be the result of public advance, the "unearned increment" of political economists. In other words, the new settlement used an experimentally formed standard to gauge existing rates, and only altered them for more scientific results, whether in amounts or description, credit being given for the progress of the district; the rates were also applied to scientifically found areas. Practically, as will be seen, no direct increase has been obtained by giving credit for public progress, no share of the unearned increment has been taken, the increase (8 per cent.) being almost wholly accounted for by a similar (7 per cent.) increase in area by survey; on the other hand an indirect increase has been made, since the previous rates were less by the above 7 per cent. of area occupied but not charged for. Or, since the increased area is to some extent due to the inclusion of unprofitable areas, paths, &c. (vide Settlement Reports), the increase is, *pro tanto*, a direct increase in assessment. On the other hand, owing to the immense reductions

(12½ lakhs) during the period from the original settlement in 1800 to 1880, the assessments of the new settlement are, in actual amount per acre, much below those of 1800-2, while, owing to progress and prices, their incidence is not one-half.

The first preliminary was a detailed survey; in common with the survey of other districts "it was designed to show all the principal variations in the surface of the soil, such as hills, jungles, roads, channels, tanks, topes, houses, cultivated and culturable land, whether nanjei (irrigated) or punjei (unirrigated), and it combines the operations of a revenue or cadastral survey with those of a perfect topographical survey on a trigonometrical basis."—(Madeane's Standing Information.) The survey proper was confined to ryotwari villages excluding pālaiyaputs, hilla, and forests, which were topographically surveyed. The village maps are on the scale of 16 inches, and taluk maps 1 inch to the mile.

"The work is connected with the Great Trigonometrical Survey by the following method. The first operation is the identification of the Great Trigonometrical Survey stations. From one of these the work commences, and runs along a village or taluk boundary until it reaches a convenient point to connect it with another trigonometrical station. These traverses embrace circuits of from 50 to 100 square miles. The bearing of station lines is ascertained at intervals by astronomical observations, and the traverses are corrected by comparison with the scales of the Great Trigonometrical Survey triangles, the errors being proportionately distributed. Thus corrected, the work of the Revenue Survey adapts itself exactly to Lambton's triangulation. At every tri-junction point the boundaries of villages are marked by masonry pillars two feet square and three feet high."—(Markham).

The village work is as follows:

"The village boundaries are first settled, every conspicuous turn of the line being permanently marked with stone; then disputes are disposed of, irregular boundaries adjusted, very small villages amalgamated, and very large villages subdivided. After these preliminaries the boundary of each field is pointed out by the karnam, and is demarcated in accordance with his accounts and revenue records. The field boundaries are permanently marked with stone and every holding is registered. The law regarding boundary marks (and disputes) is contained in Act XXVIII of 1860. Village boundaries are also surveyed by theodolite, and check lines within the village forming minor circuits (khandams) of from 100 to 200 acres are run. While the boundary work is being set up by traverse and plotted, the fields are measured by chain or triangles, so that when the measurement books are received in office the map is ready to receive the fields. After correction of any errors that may be found to exist, the area of each field is measured on the plan by computing scale, and the sum of areas so obtained is compared with the traverse area. In secondary and hill tracts the details are put in by plane table. The village map is then sent out for insertion of topographical details. It shows eventually the limits and area of every field, with a record of the nature of tenure, cultivation, present assessment, name of ryot, and source of water-supply if irrigated."

The average size of a dry field is about 6 or 7 acres; some are much larger, while wet fields are much smaller.

For the Coimbatore district this work was carried out as abstracted in the following extract from Mr. Clogston's Preliminary Settlement Report:—

"Settlement and Demarcation of Boundaries.—This work was commenced in the year 1860 by a small party attached to the Settlement Department, who, between that date and the second quarter of 1866, demarcated the taluks of Coimbatore, Satyamangalam, Palladam, Erode, Bhavani, and part of Dhárápáram. The continuation of the work was then handed over to the Survey Department. The adoption about this period of a more permanent system of demarcation than that hitherto in vogue, rendered it necessary for the Survey Department to revise the work performed by the Settlement Department in the taluks of Coimbatore and Palladam, and to replace the demarcation marks put down by the latter department by stones of a uniform size marked with the broad arrow. This revision has during the past two years been extended by me to all the lands in occupation in the taluks of Bhavani and Satyamangalam, and to the wet lands of the Erode taluk. With due care on the part of the Revenue authorities, there is no reason why the demarcation in a dry country like this should not out-last all the purposes for which it is required. All disputes regarding boundaries between demarcated fields were settled at the time of demarcation under the provisions of the Boundary Act (Act XXVIII of 1860), and should not now be allowed to be reneueated. It is of much importance that the boundaries fixed by this department should be upheld by the District Revenue Officers.

"Professional Survey with preparation of Maps.—These duties have been of course carried out by the Survey Department. The appended statement shows the surveyed area of the five taluks compared with the old areas, as obtained by the measurements made in 1800 and 1801, and since that date by unprofessional agency. The average increase of area by survey in cultivated lands is very slight, ranging from 10 per cent. in Satyamangalam taluk to only 1 per cent. in Palladam taluk, and averaging only 7 per cent. on the whole of the five taluks."

The result for the whole district has been a complete series of village and taluk maps on the usual scale, the former showing every field, path, boundary stone, channel, well, surface stream, and even the trees, or treelessness, of the field or village, besides all the particulars of topographical or revenue interest. The fields are consecutively numbered throughout each village, which, for survey purposes, is divided into blocks (khandam).

The details as obtained in the field are entered in field books, which, after completion of the survey, are sent for record to the head office in Madras, so that in case of dispute or the destruction of a field stone, the dispute can be decided, or the position of the stone recovered, with the utmost accuracy, should the ordinary maps and register be insufficient for the purpose. The results are again compiled into a register which shows the old survey number and area side by side with

the new survey number and area ; this land register is the basis of the settlement register hereafter to be noticed.

The result of this minute and scientific survey is that many questions can be decided by a mere reference to the maps and registers ; e.g., lands for a conservancy jungle can be selected on the map prior to inspection in the field, and an accurate sketch showing shape, area, position, rights of way, etc., can at once be prepared.

But the survey was only preliminary to the re-settlement of the district, which was begun in 1874 and finished in 1881.

The new settlement is based on the assumption that 50 per cent. of the net produce is the Government share ; the soils are classified, the amount of the gross produce per acre is estimated upon an average of a great number of experiments on all classes of soil, a 20 per cent. deduction is made from this estimate for seasonal vicissitudes and unprofitable areas, the cultivation expenses are estimated and deducted from the remainder, the net produce thus found is commuted into money upon an average of prices, and this result is halved and, with some modifications, forms the assessment. In practice there are so many limitations and restrictions that, except on poor soil, the theory of "half the net" is little more than nominal, as will be seen hereafter (*cité* "Economical condition" *sub* voc. "Incidence of assessment").

Mr. Maclean's *resumé* of the usual course of settlement applies accurately to this district ; the first preliminary was "to obtain a general view of the characteristics of the district ; to ascertain particulars of the climate, rainfall, physical features of such tracts or divisions as might differ from each other distinctly ; to search the Collector's records for information relative to the past history of the district, its years of plenty or famine, its lands, tenures, mode of taxation, and cause of its gradual progress ; to study the relative value of such sources of irrigation as it might possess ; to determine how different tracts were affected by roads, canals, market towns, hill ranges, or seaboard, and to acquire a general idea of the prevailing soils in each tract, and the relative (crop) value of such black or red loam, sand or clay as might be found to exist. Each taluk was next visited, and the revenue officers and leading ryots assembled, and their opinion asked regarding the relative values of villages under such and such irrigation, or in such and such a position ; information was also recorded as to the payment of labour, the method of cultivation pursued, the crops grown, the mode of disposal of surplus grain, and the markets mostly frequented. The villages were next formed into groups with reference to their several advantages of irrigation, climate, soil, situation, etc., and a series of experiments was made to ascertain the yield of the staple grains. When this was determined, a table was formed showing the yield of each class of soil, and this yield was converted into money by an average struck on 20 years' market prices, with some abatement for traders' profits and for the distance that the grain usually had to be

carried. From the value of the gross produce thus determined the cost of cultivation was deducted, and the remainder or net value of the produce was then divided, and one-half taken as the Government demand on the land. The work, so far, was done by the officer at the head of each party, but in the meantime his native establishment has been employed in going over the villages and classifying the land according to soil and circumstances. This operation was carefully watched and checked by the head of the party, who eventually prepared a scheme for the settlement of the whole or part of a district and submitted it for the sanction of Government."

This preliminary scheme was prepared for the five northern taluks, exclusive of Kollegal, by Mr. Clogstoun, whose report and appendices of the 1st September 1875 embody the result of two years laborious research. Space will only permit of a brief analysis of this interesting document, to which, and to the subsequent correspondence, readers are referred for fuller details. Though the report dealt only with five taluks as noted, the scheme was proposed for the whole district, exclusive of Kollegal, since these taluks were fair samples of the whole; with the exception of that part of Palladam south of the Noyil, these taluks belonged to the tract originally called the northern division.

After giving a sketch of the district and its characteristics, Mr. Clogstoun reviewed the previous revenue history and practice, and then proceeded to discuss the incidence of the existing assessments, and the rental and sale value of the district lands; for an examination of these latter topics, *vide infra, sub voc.* "Economical condition." Having arrived at the undoubted fact that all wet and garden lands have a good sale value, and that many, if not most dry lands have a sale value varying according to position, quality, competition, etc., Mr. Clogstoun proceeded to notice the condition of the land revenue year by year; this will be found fully noticed below. The general result is that the revenue has steadily progressed from Rs. 20,82,517 in 1209 to Rs. 26,07,877 in 1283, but with great fluctuations, due on the one hand to excessive demands and bad seasons followed by exhaustion, on the other to sudden and heavy reductions in the demand as in 1217 on the dry lands of the southern division, and in 1264, 1265, and 1274 to the abolition of special garden assessment; the increase is *wholly* due to an increase in the area of highly-assessed wet lands and a vast increase in the area of dry land cultivation. The area now under cultivation would, at the rates of Faslî 1209, pay 38½ lakhs, and that it does not do so is due to the great reductions of Faslîs 1217, 1264 and 1274 with other minor reductions. The result of the increased area of cultivation is that the bulk of waste lands has been taken up.

Part II of the report deals with the system of the proposed settlement, the steps of which are stated as follows:—

- "I. A settlement and durable demarcation of the boundaries of all fields, villages and taluks, as well as of the district as a whole.

- II. A professional revenue survey, with the preparation of village, taluk and district maps.
- III. A strict and careful registration of proprietary rights, public and private.
- IV. A classification of the soils, and a determination of the productive powers of each class in terms of some staple grains.
- V. A determination of the cost of cultivation and of the net yield, half of the latter being taken as the assessment leviable, and commuted into money at a rate calculated on the average price prevailing during a series of years.
- VI. A division of the villages into groups with reference to proximity to, or remoteness from, roads or markets, and a reduction of the standard rates obtained, as described in the last paragraph, to compensate for disadvantages in the above respects."

Points I and II.—These have been dealt with above.

Point IV.—The system adopted by Mr. Clogstoun was that of field classification as distinguished from the Tinnevely block system, and was an attempt to give a strictly accurate valuation to each field, regardless whether the result was an increase or decrease of assessment. The following quotation gives a clear description of the original Coimbatore plan :—"A classifier visits a village, and with a map in his hand visits every field accompanied by the karnam and by the field owner, and on the spot makes a complete registry of the field " in a form which gives particulars of the number, class, irrigation, crops, area, assessment, etc. In the columns entered for the purpose " he then classes the field according to the nature and quality of its soil, as black or red clay, black or red loam, or black or red sand, each of these classes being divided into three sorts, called good, middling, or bad. His classification is then marked in symbols on the map, which thus to the practised eye becomes a picture of the soils of the village." Various precautions were adopted in the way of supervision by head classifiers, supervisors, and deputy directors, to ensure evenness and correctness of classification, and to guard against fraud; and upon this system, very carefully worked out for Coimbatore, the preliminary scheme was drawn up, and Mr. Clogstoun fairly claimed great accuracy without unnecessary minuteness in detail.

Regarding Mr. Clogstoun's principle of assessing fields "regardless whether the valuation should result in an increase or decrease of land revenue," the Director, Mr. Puckle, in reviewing the scheme, observed that it is impossible to ignore existing facts, that ryots would not understand great variations upon adjoining fields introduced "to satisfy theoretical nicety," and that classifiers would find it difficult to rate individual fields unless regard were had to surrounding circumstances and existing assessments. In other words Mr. Puckle favoured the block system, which, although based upon a field survey and classification, took no account of individual fields in assessing a village; but, having fixed upon an appropriate rate for each class of soil, blocked

out a village into areas of fairly homogeneous character, and applied to each area the appropriate rate; these blocks, with appropriate symbols, were entered at first on village sketches, and then were transferred to small maps embracing a series of villages, so that the settlement officer could see at a glance that a stretch of say "red gravelly upland running through several villages is treated uniformly throughout, or that all the lands under a channel are classed systematically with reference to soil, situation, and level, though they may be in several villages." Mr. Arundel gave a description of the block system in his letter, No. 357 of 12th March 1880, in which he illustrated the effect of the system in given villages, and it is clear that such a system avoids the different classification which different classifiers might give to similar and adjacent soils in different villages. In making the settlement Mr. Clogstoun's plan was to equalize the incidence of assessment on each field by raising or lowering each field to an assumed standard, and he thought that a settlement which did not make a vast difference condemned itself; Mr. Puckle's principle was to avoid making any great difference and to endeavour to levy similar assessments over large tracts, such assessments approximating, as far as possible, to existing relations, so far as consistent with the general principles of the revision. The Board's comments are as follows:—

"The Board incline to share Mr. Puckle's view to a great extent; the inequalities of incidence of assessment on individual fields due to former settlements have, during the half century or more for which the settlements have been in force, probably righted themselves as far as individuals are concerned, or been corrected by occasional adjustments. Where the assessment has been prohibitory the land has been given up or reductions have been made. Where lands have changed hands the present owners have in some cases paid high for the comparatively lightly-assessed fields, whilst they have acquired comparatively highly rated lands at low prices, so that minute adjustments of incidence by settlement, even if sound in the abstract, may neither be just to individuals nor desirable from a public point of view. The Board have entered into the subject at some length, because, though not prepared to express a decided opinion at present on the question of the adoption of the system generally in all future settlement operations, they unhesitatingly advocate acceptance of Mr. Puckle's present proposals as regards Coimbatore. On the score of speed and simplicity of settlement there is no room for argument, and it is very desirable that the district should be completed with as little delay as possible."

Government accepted Mr. Puckle's plan and ordered it to be carried out (G.O., No. 1964, of 6th December 1878). It is upon this plan that the settlement in Coimbatore was worked. A fact of importance is suggested by Mr. Puckle's dictum that what at present exists is not to be ignored, and that is, that though the settlement theory is strict, whichever mode is adopted, it is in practice modified to suit existing assessments when the strict classification would result in unduly high rates. The following table from Mr. Arundel's letter above mentioned illustrates this:—

Block.	Area of block.	Block system.		Strict field classification.		Modified field classification.		Old assessment.	
		Rate.	Total assessment.	Rate.	Total assessment.	Rate.	Total assessment.	Rate.	Total assessment.
W ..	AREAS. 3	RS. 5	RS. 15	RS. 6	RS. 18	RS. 4	RS. 12	RS. A. P. 2 5 0	RS. A. 7 8
X ..	287	6	1,722	{ 10 8 6 0 }	2,308	{ 10 8 6 5 4 }	2,175	5 8 3	1,583 0
Y ..	35	6	210	{ 8 6 }	278	{ 4 5 }	172	4 4 7	150 0
Z ..	158	8	1,264	{ 10 8 6 0 }	1,573	{ 10 8 6 4 }	1,282	5 9 7	892 0
Total ..	482	..	3,211	..	4,177	..	3,041	5 7 4	2,632 8

From the survey results it will be seen that all surveyed lands (called ayaout) are divided into: culturable, peramboke, and unclassified waste; culturable lands are subdivided into Government and inam, and Government again into occupied and unoccupied. Unclassified waste is only 2 per cent.

"By the term peramboke is meant all land actually uncultivable or which it is desired to set aside for public purposes. These lands have been demarcated and registered with the greatest care, and all attempts to encroach on them on the part of the ryots should be scrupulously guarded against." Such lands are rocks and rocky hills, the beds of rivers, streams, channels, and nullahs, including usually a certain margin, all roads and village lanes (itteries), village sites (nattam), village commons (manthai), supposed to be grazing grounds, burning and burial grounds, and so forth. To Mr. Clogstoun's caution, which is only too requisite—garden ryots being generally great trespassers—may be added that no perambokes in Coimbatore should be permanently given away under any pretext; the percentage of public lands is very small and daily bearing less proportion to the occupied area and population; lands apparently useless now, such as deserted village-sites or manthai overgrown with prickly-pear, will in the course of time be occupied by houses or cleared for pasture, and meanwhile trees are growing amongst the prickly-pear; if on sanitary grounds the land ought to be cleared, the village ryots should clear them, or a temporary cowle for ten years free of all assessment might be given.

All soils are found to be divisible into eight classes, and each class into five sorts. Of the eight classes only five are found in Coimbatore, viz., black clay, loam, and sand, and red loam and sand. For a detailed table of areas under each class, see Chapter I, *sub sec.* "Soils."

Black clay occupies	3.48	} per cent. of the total classified area of Government land.
Black loam do.	6.33	
Black sand do.	2.18	
Red loam do.	22.87	
Red sand do.	65.14	

Black clay is almost confined to the taluks of Coimbatore, Palladam, and Udumalpet. Each class was divided into five sorts instead of three since the process of grouping villages was not originally resorted to. Villages are grouped regarding their dry lands so as to equalize the advantages which certain villages possess over others regarding proximity to roads and markets; it is obvious that a village close to a large centre such as Coimbatore, or railway station and market such as Erode, is better off than a village of equal quality in soil, but distant from such advantages, and this is of importance in the matter of the cheap dry grains which yield but a small profit to the grower. In the case of wet lands no such concession is needed, the profits of cultivation being considerable, and the produce, bulk for bulk, of greater value; hence the grouping in regard to wet lands refers only to the nature and quality of the source of irrigation. But in Coimbatore, with its many weekly markets (*shandies*) and numerous excellent roads the grouping ordinarily required for dry villages was thought unnecessary by Mr. Clogstoun; all that was needed was to allow a somewhat larger series of gradations, which at Mr. Puckle's suggestion were raised to five. To quote to Mr. Clogstoun:—

"The description of the plan is simple. I have stated above that it is the duty of the classifiers to divide the different soils into good, middling and bad, and of the inspecting officers to see that the line between good and middling and middling and bad is evenly drawn. The difficulty in ensuring this regularity and evenness in classification has always been a very present one to a settlement officer. The ability of a classifier to divide the land of a village into three gradations of quality can be trusted, but his knowledge of the country is limited to the few villages in which he himself works, and his best loam, though rightly enough treated as best as far as his village is concerned, may be far from equal to land of the same nature which is classed as only middling loam in another. It is the duty of the supervising officer to counteract these necessary shortcomings of the system, and it has generally been done by grouping; the effect of putting one village one group lower than another being virtually to change the first, second and third sorts of a soil into the second, third and fourth sorts. The objection to the adoption of grouping for effecting this change is that all soils in the village are reduced where only one kind may require reduction. I found, for instance, in certain villages in the Palladam taluk, that while the black clay was excellent, the red sands were very poor. If the village had been placed in the first group the red sands would have been over-assessed; if in the second group, the black clay would have been under-assessed. All difficulty was avoided by classing the clays in the first, second and third sorts, and the red sand in the second, third and fourth sorts. The change is one which has practical advantages to recommend it, and it is contrary to no principle hitherto

followed; the difference between the former practice and that I now treat of being just this, that, for instance, a field which under the former system would have been classed as the third sort in the second group, is now shown as the fourth sort of the first group."

The Director, however, considered a second group to be necessary "for the more favourable treatment of outlying villages;" this amendment was confirmed by Government, and formed part of the scheme on which the district was finally settled.

Point V.—The valuation of the soil as based upon its outturn is a most important subject, and its only solid basis is that of measuring the actual yield of crops. Accordingly 1,540 experiments were made in dry staples (kambu, cholam, and ragi), and 1,572 in paddy, many of them being under Mr. Clogstoun's personal inspection; the results may therefore be considered trustworthy for the years in which they were made. The difference between this mode of ascertaining the produce and Mr. Hurd's method is sufficiently obvious. The seasons of these experiments were those of 1872-73 and 1873-74 for dry grains, and the same two seasons and that of 1874-75 for paddy. Mr. Clogstoun states that "in the two former seasons the yield of the dry lands was poor throughout the district owing to scarcity of rain, while the wet crops, owing to the fulness of the freshes in the rivers, were excellent."

The kar paddy experiments of Satyamangalam under Bhavani irrigation were rigidly and impartially conducted, the ryots being given the option of selecting other fields than those chosen for trial; the average of 150 experiments gave 1,315 Madras measures per acre, only six yielding less than 750. This subject is discussed in the section on "Outturn" in the chapter on "Agriculture."

The valuation of dry lands is a matter of more delicacy, since the outturn varies infinitely from year to year, and is far smaller in quantity than that of wet lands; hence a rigid scrutiny into the state of seasons, and scrupulous accuracy in quantities and areas, are necessary.

The areas experimented upon were carefully measured, and may be taken as accurate.

Regarding the outturn, a reference to the accompanying table shows that the experiments were conducted almost entirely upon the first and second sorts of each class of dry soils, the experiments on other sorts being only 21 out of 1,540. Hence it seems that the rates for the lower sorts were graded by estimation, probably based on experience in other districts. It will be noticed that about 41 per cent. of the five taluks then under settlement is of the lower sorts, viz., 7—3, 4, 5, and 8—3, 4, 5. And while the grain values of these sorts (175, 150, 125, and 150, 125 and 100) do not appear to be high, it is to be noted that even in a cycle of good seasons these poorer lands will not give a crop three years in succession, but that from one-third to one-fourth is

regularly left waste¹ for some slight gain in productiveness, when they produce next to nothing in the shape of grass. It is also a matter of experience that while favourable cycles are rare, unfavourable are the reverse, and Mr. Wedderburn's remark is that "full crop is the exception and half to one-fourth the average." The statements on pages 19 to 21 of Mr. Clogstoun's report, and the meteorological notices and appendices of this Manual may be consulted for a history of Coimbatore seasons. Hence, even a low valuation, though fair for any given year's outturn of land when cultivated, has to be rigidly checked when the outturn of a series of years is considered.

The black clay and black loam lands, which aggregate 102,482 acres in Palladam and Coimbatore, and are the most valuable of all lands, were assessed upon a grain estimate, "based on the degree in which the black lands are accepted to be more valuable than the red," since the staples are cotton and cholam, of which the former is not a standard crop, and the latter failed in one of the seasons.

Finally it is to be noticed that the better sorts of soils are usually garden lands which were not experimented upon but estimated.

The next consideration was that of cultivation expenses, in which the scheme is generally liberal to the ryots; it is abstracted in the following table:—

Cultivation expenses for an acre of dry land.

Primary taram.	Rates.	Ploughing cattle.	Agricultural implements.	Seed.	Manure.	Price of labour.	Total.
	Rs. A.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1	1 12	0 13 4	0 8 10	0 4 0	0 8 0	1 4 0	3 6 4
2	1 8	0 13 4	0 8 10	0 4 0	0 8 0	1 4 2	3 6 4
3	1 4	0 13 4	0 8 10	0 4 0	0 8 0	1 4 2	3 6 4
4	1 0	0 13 4	0 8 10	0 4 0	0 6 0	1 2 2	3 2 4
5	0 12	0 13 4	0 8 10	0 4 0	0 4 0	1 0 2	2 14 4
6	0 8	0 13 4	0 8 10	0 4 0	..	1 0 2	3 10 4
7	0 6	0 13 4	0 8 10	0 4 0	..	0 9 2	2 3 4

Cultivation expenses for an acre of wet land.

Primary taram.	Rates.	Ploughing cattle.	Agricultural implements.	Seed.	Manure.	Price of labour.	Total.
	Rs. A.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1	10 8	3 0 0	1 0 0	1 0 0	2 0 0	6 2 10	13 2 10
2	9 8	3 0 0	1 0 0	1 0 0	2 0 0	5 2 10	12 2 10
3	8 0	2 0 0	1 0 0	1 0 0	2 0 0	5 2 10	12 2 10
4	7 0	2 0 0	1 0 0	1 0 0	2 0 0	4 2 10	11 2 10
5	6 0	2 0 0	1 0 0	1 0 0	2 0 0	4 0 10	10 0 10
6	5 0	2 0 0	1 0 0	1 0 0	..	4 0 10	8 0 10
7	4 0	2 0 0	0 12 0	1 0 0	..	3 8 10	7 4 10
8	3 8	1 4 0	0 12 0	0 12 0	..	2 0 10	4 12 10
9	3 0	1 4 0	0 12 0	0 12 0	..	2 0 10	4 12 10
10	2 8	1 4 0	0 13 0	0 12 0	..	2 0 10	4 12 10

¹ About one-seventh of the occupied area is annually left in fallow; the greater part of this fallow area is in the poorer sorts of land.

The lower rates of soil are granted smaller allowances since they are not so highly cultivated as the better sorts. In dry lands the allowance is above the value of half the gross produce in all but the first rate, after allowing one-fifth for vicissitudes, while, as elsewhere shown, much of the land is let on the half *vāram* system, so that the real cultivation charges must be much less than the half produce, which, on the landlord's side, has usually to pay for his living and the Government kist, on the other to support the cultivator and pay the cultivation charges. It is assumed that a pair of bullocks last six years, cost Rs. 50, and will suffice for 10 acres, and the cost of cattle is accordingly calculated at 13 annas 4 pies per acre. This does not allow for interest on the cost, as the ryot has other uses for his cattle, which, again, do not cost more than from Rs. 30 to 40, and usually last longer than six years. Taking one field with another, the allowance for implements, seed, and manure is liberal, and also that for labour, which on the better classes nearly represents per acre the labour of one man for 25 days or one man and two women for 10 days. The price of labour was calculated at the ordinary wages, in grain, which was turned into money at the settlement commutation rate.

For wet land the assumption was that three acres could be ploughed with one pair of oxen of the same cost and duration as in dry land; the cost of ploughing is, however, variously estimated at from Rs. 3 to 1-4-0 per acre, the latter rate being obviously too low at the assumed rate of three acres and a life of only six years. The rates for tools and seed are high, those for manure and labour low. It is common to put on the better lands four cart-loads of green manure (*kolinji*, etc.) per acre per crop (six per *cawni* is often alleged), and it is seldom that this costs less than one rupee per load. The labour in such fields is very considerable, quite a gang of labourers being required for treading in the green manure (a very laborious work), transplanting, weeding, reaping, and threshing.

On the whole, since the cost of cultivation varies very largely according to place and the circumstances of the ryot, the estimates probably represent pretty nearly the average money value of cultivation charges.

The rates for garden crop cultivation are not separately entered; the cost is of course much above that of dry cultivation; on this subject see "Agriculture." No allowance is made for feeding charges of cattle, it being assumed that the straw, which, *per contra*, is not credited to the culture, is a sufficient equivalent.

The next important matter is the commutation rate. According to rule the average prices in the ryots' selling months during a series of twenty years (1845-64) were taken, and the rate based upon their average. Prices having greatly risen from 1860 to 1870, the ryots were much favoured by the selection of an earlier series of years.

Since the famine, however, they have approximated to prices prior to 1860, the average of second-sort paddy and kambu in 1882-83 being Rs. 144 and Rs. 117 respectively, or almost exactly the 1845-64 average rates, as against an average in 1851-60 of Rs. 133 and 132 per gaurce. As the selling month, that in which the price appeared lowest was taken, and the month and average so obtained are as follows :—

—		Selling month	Average price per gaurce over 20 years
			RS. A. P.
For first-sort paddy	..	February	144 0 0
.. second-sort paddy	..	May	133 0 0
.. kambu	..	December	115 0 0
.. cholam	..	November	154 0 0
.. ragi	..	Do	128 0 0

These were town prices, and from them a 10 per cent. deduction was made as the dealer's profit, the result being the supposed price obtained by the ryot; the deduction seems sufficient since the ryot deals direct with the merchant at the weekly markets. On the selling prices of the whole year instead of the selling month it is found that the above 10 per cent. would represent 17 per cent. as the profit to the merchant or wealthy ryot who can await higher prices.

The next difficulty was to obtain a simple rate that should apply for all dry crops. The first thing was to class all dry crops, other than the standard kambu, cholam, or ragi, under one of those crops either at an equal or other proportion; *e.g.*, cotton was considered equal to cholam, horsegram to kambu; gingelly, castor seed, etc., are rated at three-sevenths of cholam and four-sevenths of kambu, and so on. Waste, which occupied 13 per cent., was charged similarly to gingelly. The average area occupied by each crop during the previous four years was then ascertained, and when found was redistributed in terms of the standard crops according to the scale laid down, with the result that 51 per cent. was treated as kambu, 40 per cent. as cholam, and 9 per cent. as ragi. To this area was then applied the commutation rate for each standard crop, the added result being taken as the general commutation rate. The following table shows actual results, all crops as stated above having been entered either as kambu, cholam or ragi; the commutation rate for paddy was obtained by averaging the prices of first and second sort paddy.

Crops.			Percentage of area.	Price per garce of selling month.	Deduct 10 per cent. for village prices.	Balance of price in villages.	Price of crops on percentage area at the above rate.	Commutation rate per garce of the whole for dry or wet.
Dry	Ramla	.. ..	51	Rs. 115	Rs. 11	Rs. 104	Rs. 53	Rs. A. P.
	Cholam	.. ..	40	154	15	139	53	..
	Ragi	.. ..	9	125	12	113	10	..
	Total ..		100	327	30	293	119	119 0 0
Wet	Paddy, first sort	.. ..	..	144	..	..	..	..
	Do. second sort	.. ..	..	133	..	..	..	..
	Total ..		..	277	13	126	126	126 0 0
Mean				138				

The commutation rates are thus Rs. 119 per garce for dry grain and Rs. 126 per garce for paddy.

From the grain valuation as found by experiment, it was decided to deduct 20 per cent. for unprofitable seasons and inequalities of crops, inclusion of unprofitable waste (rocks, surface water-courses, paths, etc.).

The Director considered that the estimates of outturn were fair and borne out by results elsewhere, the maximum for the Godavari and Tinnevely districts being 1,200 Madras measures of paddy, and that of cholam in the best red soils of Ganjam, Trichinopoly, South Arcot, and Cuddapah, viz., 268 Madras measures, being about the same figure as the highest proposed for Coimbatore. He also approved of the cultivation charges as assimilating closely to those arrived at for wet land in the Guntur portion of Kistna, in Tinnevely, Kurnool, Chingleput, and Salem, and for dry land in the Godavari, the Masulipatam portion of Kistna, Nellore, and Trichinopoly. The commutation rates, viz., Rs. 126 for paddy and 119 for dry grains, he considered fair but high; the wet rate as the highest yet proposed for any district, being the same as for Cuddapah, Rs. 18 above that for Tinnevely, Rs. 26 above that for Salem, and Rs. 50 above that for Trichinopoly. The latter seems unduly low, but was formed in 1860 when prices were lower. For dry grains the standard was lower than that of Cuddapah, but Rs. 14 higher than that for Ganjam, Rs. 19 higher than that for Salem, and Rs. 31 higher than that for Trichinopoly. He observed, however, that these high commutation rates were modified by the liberal allowance of 20 per cent. for vicissitudes of seasons and for unprofitable lands measured into fields. It is however to be noted that in Trichinopoly a similar deduction was made on dry lands, 15 per cent. in Salem, from 15 to 25 per cent. in South Arcot, and in other districts also. Moreover a

further deduction of 10 per cent. "from the Government share of half the net" was made in Salem and Trichinopoly on account of unprofitable areas. In wet lands, though nothing was allowed in Salem or Trichinopoly for vicissitudes of seasons, yet in the rich delta of the Godávári a 17 per cent. deduction, and in South Arcot a 15 to 25 per cent. deduction, were allowed. Under these circumstances it is difficult to see how the relatively high commutation rates are relatively lowered by the 20 per cent. deduction for vicissitudes of seasons and unprofitable patches, the seasons being notoriously unfavourable in Coimbatore, and the non-culturable patches (rocks, hedge-lands, etc.) being very considerable.

Whether this deduction is sufficient and whether 20 per cent. should be deducted equally from dry and wet land are questions. As Mr. Wedderburn observes, the district is particularly unfavoured as regards rain and seasons, and half and one-fourth crops are the rule rather than the average crop for those watered only by the rains. It will elsewhere ("Climate," "Agriculture," etc.) be seen that every officer from Mr. Sullivan to Mr. Wedderburn has regarded the dry rain-fed crops of Coimbatore as "most precarious," and Mr. Grant, writing in 1865, stated that out of 63 years only 2 had been good, 11 fair, 41 unfavourable, and 9 really bad. It is not merely deficiency in the total quantity of rain, although deficiency below the average, which moreover is among the lowest in the Presidency, is common, but it is the monthly and yearly oscillations, uncertainty, and unseasonableness, that cause distress. The chief cereal (kambu) is one which only grows at a particular season, and demands or is harmed by rain at several critical periods, so that the ryot often gains the lowest results; and, as shown above, the poorest lands, on which the assessment presses heaviest, are those most frequently requiring to be fallowed, and demand therefore the greater indulgence. Moreover, though Mr. Clogston's figures were arrived at on the crops of poor years, and are therefore more favourable to the ryot than if upon an average of years, it is to be noted that the results were equal in amount to those of other settled districts, such as Trichinopoly and South Arcot, in which soils and seasons are certainly not less favourable.

The commutation rates are below the present market prices (1884), the twenty years on which they were based including five unusually low-priced years; as regards wet lands in Satyamangalam, Mr. Arundel points out that had the commutation rates been fixed on the prices from 1865 to 1875 instead of from 1845 to 1865, the assessments would have been Rs. 23 to 6½ per acre instead of Rs. 12 to 2½. Paddy has, however, considerably fallen since Mr. Arundel wrote (1879-80); other produce has similarly fallen. Regarding wet lands the reduction was necessary, it would seem, partly because assessments would otherwise have been too high without such reduction, partly because the wet crops were very good in the years of settlement. But save in a few channels and usually only at the tail of these, the crops on channel-fed lands are

seldom anything but good, and remission for waste lands and withered crops is freely given in such cases, and habitually for rain-fed tank lands.

The grain valuation, cultivation charges, and commutation rate having been determined, and the above 20 per cent. deduction having been made, it became possible to settle the rates.

Mr. Clogstoun proposed rates as shown in the following tables, which are given in full as an abstract of the foregoing remarks regarding out-turn, cost of cultivation, etc.

"The following statements show the dry and wet money rates for each class of land :"—

Dry.										
Primary taram.	Outturn in Madras measures.	Value at Rs. 110 per gace.	Deduct one-fifth for vicissitudes of season.	Remaining gross value.	Deduct cultivation expenses.	Net value.	Half net.	Proposed rate.		
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1	250	9 4 9	1 13 0	7 7 0	3 0 4	4 0 8	2 0 4	1 12 0		
2	225	8 5 10	1 10 9	6 11 1	3 5 4	3 4 0	1 10 4	1 5 0		
3	200	7 7 0	1 7 9	5 15 3	2 6 4	2 8 11	1 4 5	1 4 0		
4	175	6 8 1	1 4 10	5 3 3	2 2 4	2 0 11	1 0 5	1 0 0		
5	150	5 9 3	1 1 16	4 7 5	2 14 4	1 9 1	0 12 6	0 12 0		
6	125	4 10 4	0 14 10	3 11 6	2 10 4	1 1 0	0 8 7	0 3 0		
7	100	3 11 0	0 11 11	2 15 7	2 3 4	0 12 3	0 6 1	0 6 0		
Wet.										
Primary taram.	Outturn in Madras measures.	Value at Rs. 120 per gace.	Deduct one-fifth for vicissitudes of season.	Remaining gross value.	Deduct cultivation expenses.	Net value.	Half net.	Proposed rate.		
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1	1,200	47 4 0	9 7 3	37 12 10	13 2 10	24 10 0	12 5 0	10 3 0		
2	1,000	39 0 0	7 14 0	31 8 0	12 12 10	19 5 2	9 10 7	9 8 0		
3	900	35 7 0	7 1 6	28 5 7	12 2 10	16 2 9	8 1 4	8 0 0		
4	800	31 8 0	6 4 10	25 3 2	11 2 10	14 0 4	7 0 2	7 0 0		
5	700	27 2 0	5 8 2	22 0 10	10 5 10	12 0 0	6 0 0	6 0 0		
6	600	19 11 0	..	19 11 0	8 0 10	11 10 2	5 15 1	5 0 0		
7	400	15 12 0	..	15 12 0	7 4 10	8 7 2	4 3 7	4 0 0		
8	300	11 13 0	..	11 13 0	4 12 10	7 0 2	3 8 1	3 8 0		
9	300	11 12 0	..	11 12 0	4 12 10	7 0 2	3 8 1	3 0 0		
10	300	11 12 0	..	11 12 0	4 12 10	7 0 2	3 8 1	2 8 0		

These were subjected to a variety of alterations either in proposal or fact; the highest theoretical rates in wet and dry were raised, while the effect of grouping was to introduce a lower rate (4 annas) in dry. Other alterations were made in the field application of the rates to the various areas. The effect of the first-named alterations was *pro tanto*

to modify the theoretical proportion of the assessments. The final result was that nine rates from Rs. 12 to 2-8 in wet lands, and eight rates from Rs. 2 to As. 4 in dry lands were settled; every sort of land in each class comes under one or other of these rates. The following table shows the various rates in one view:—

Dry.				Wet.					
Class and sort.	Tarim.	First group.	Second group.	Class and sort.	Tarim.	First group.	Second group.	Tarim.	Third group.
		Rs. A. P.	Rs. A. P.			Rs. A. P.	Rs. A. P.		Rs. A. P.
3 1 4 1	3	2 0 0	4 1 8 0	4 1 3 1 4 2 7 1	1	12 0 0	2 10 0 0	3 8 0 0	
3 2 4 2 7 1	4	1 8 0	5 1 4 0	3 2 4 3 7 2 8 1 5 1	2	10 0 0	3 8 0 0	4 5 0 0	
3 3 4 3 5 1 7 2 8 1	5	1 4 0	6 1 0 0	2 3 4 4 5 5 7 3 8 2	3	8 0 0	4 0 6 0	5 5 0 0	
3 4 4 4 5 2 7 3 8 2	6	1 0 0	7 0 12 0	2 4 4 5 5 6 7 4 8 3	4	6 0 0	5 5 0 0	6 4 0 0	
3 5 4 5 5 3 7 4 8 3	7	0 12 0	8 0 8 0	2 5 4 6 5 7 7 5 8 4	5	5 0 0	6 4 0 0	7 3 8 0	
5 4 7 5 8 4	8	0 8 0	9 0 6 0	2 6 5 4 7 6 8 5	6	4 0 0	7 3 8 0	8 3 0 0	
5 5 6 5	9	0 6 0	10 0 4 0	2 7 5 5	7	3 2 0	8 3 0 0	9 2 8 0	

The rates prevailing prior to the new settlement were, in the five northern taluks alone, 97 for wet land from Rs. 20-13 to Rs. 1-7-2, and 138 for dry land from Rs. 1-9 to As. 3-6; though originally not very numerous (*vide supra*), they were frequently modified for various outises.

It will have been noticed that the assessment proposed for wet lands was that for a single crop, and Mr. Clogstoun went on to propose the mode of fixing the second-crop assessment. Hitherto the practice had been peculiar; e.g., in Dhārāpuram, if land was cultivated with a second crop, no extra charge was made; if only with one crop, a certain amount was remitted. There was, however, no uniform practice as shown in

the extract from Mr. Clogstoun's report, Part III, paragraph 2, quoted above under "Second-crop assessment." This set of customs was done away with; the lands under the Kalingarāyan were to be charged a consolidated rate of half additional to the single-crop assessment, and the ryots under other works were to be allowed the option of compounding at one-third or one-fourth rate additional, no exception being made in the case of rain-fed tanks. The details will be found mentioned in the section on "Results." It was also ordered that half the single-crop rate should be levied on second crops whenever grown on land assessed only as single crop, but by Board's Proceedings, No. 953, of 12th July 1880, ryots are permitted to effect composition at any time for single survey numbers or letters, on the same scale as that adopted for similar lands in the same village.

The *teazgāri*, *ayen pillu*, and *paravu pillu* remissions were also done away with; the first was a trifle of Rs. 416 (1872-73), which was the relic of an old custom by which Brahmans and Mussulmans cultivating their own lands obtained a reduction of one-fifth and one-eighth respectively. The *ayen pillu* remission was a reduction of three-fourths of the assessment on lands held for grazing, such reduction being limited to one-fifth of the ryot's holding. As lands became valuable and population increased, these lands were brought under cultivation, so that while remissions were granted in Fasli 1233 to the amount of Rs. 3,75,936, there was a steady decrease, till in 1283 they were only Rs. 21,252. The subject has been treated more at length in the Agricultural section *sub* *co*. "Pasture" and also in the former part of this chapter.

Paravu pillu was similarly a grazing rent, but was rather a mode of assessment than a remission; public waste land could be held for grazing at one-fourth the assessment so long as no one wished for the land for cultivation at the full rate.

Upon the above principles the new settlement was carried out. To recapitulate briefly; it began with a survey in 1860; the preliminary settlement scheme was elaborated by Mr. Clogstoun from 1873 to 1875, in which he took account of the condition, circumstances, and revenue history of the district, classified the soils according to their ascertained capacity, determined the net yield after deducting the cost of cultivation, and after further allowances for seasonal vicissitudes, etc., commuted the Government share, taken as half the net, into money upon the average of the prices obtaining from 1845 to 1864. These rates were then applied to the various areas grouped according to their advantages or disadvantages. The subsequent operations were carried out taluk by taluk by Messrs. Arundel, Stuart, Venkatachariar, and Bālakistna Naidu, an abstract of whose separate reports will be found under the several taluks to which they refer.

The results of the new settlement are abstracted for the district as follows.

The villages that came under survey are entered below :—

Taluka.	Total number of villages formerly as per jamabandi accounts.	Deduct.			Remaining.	Number of villages increased by subdivision.	Number of villages surveyed and unapportioned.
		Number of villages excluded from demarcation and survey.	Number of villages unallotted.	Total.			
1. Dhārāpuram ..	81	..	..	..	81	1	82
2. Karūr ..	83	..	2	2	81	7	88
3. Udampet ..	90	..	2	2	88	1	89
4. Pollachi ..	131	..	..	..	131	..	131
5. Kollegal ..	149	58	..	58	91	..	91
6. Bhavani ..	63	4	..	4	61	1	62
7. Erode ..	210	..	..	..	210	..	210
8. Satyamangalam.	233	79	4	83	150	..	150
9. Coimbatore ..	290	9	27	36	254	5	259
10. Palladam ..	194	..	..	..	194	1	195
Total ..	1,026	150	35	185	1,341	16	1,357

The surveyed areas are compared with former areas as follows :—

Taluka.	Ayacut.			Deduct.			Remaining.				
	Former settlement.	New settlement.	Increase per cent.	Perambles and unclassified waste.	Inam.	Total.	Occupied.			Unoccupied, including wet and dry.	Total.
							Dry.	Wet.	Total.		
1. Erode ..	ACR. 337,353	ACR. 383,842	+ 7	+ 0	+ 10	+ 4	+ 0	+ 9	+ 9	+ 1	+ 9
2. Satyamangalam ..	229,921	248,700	+ 9	+ 7	+ 7	+ 7	+ 9	5	0	+ 4	+ 8
3. Palladam ..	458,902	472,899	+ 3	+ 32	0	+ 13	+ 1	+ 6	1	+ 2	+ 1
4. Coimbatore ..	328,594	370,104	+ 9	+ 22	+ 4	+ 16	+ 7	+ 7	+ 14	+ 11	+ 9
5. Bhavani ..	171,345	194,189	+ 13	+ 26	+ 9	+ 21	+ 9	+ 13	9	+ 19	+ 10
6. Dhārāpuram.	491,134	535,358	+ 9	+ 37	+ 5	+ 18	+ 1	+ 8	8	+ 3	+ 1
7. Karūr ..	334,612	367,862	+ 7	+ 6	+ 9	+ 8	+ 9	+ 6	9	+ 4	+ 8
8. Udampet ..	202,827	218,938	+ 8	+ 24	+ 6	+ 10	+ 1	+ 12	+ 1	+ 34	+ 6
9. Pollachi ..	229,324	245,251	+ 7	+ 24	+ 4	+ 15	+ 5	+ 13	+ 6	+ 6	+ 6
10. Kollegal ..	207,853	244,357	+ 18	+ 42	0	+ 40	+ 2	+ 6	+ 2	+ 3	+ 3
Grand Total ..	3,021,872	3,271,607	+ 8	+ 23	+ 5	+ 15	+ 6	+ 8	+ 6	+ 5	+ 6

The percentage of survey increase in area is on the whole very uniform throughout the district.

The increase by survey in cultivable area exclusive of inams is 6½ per cent. above former areas. Occupied area is 91·8 per cent. of the cultivable area, the rest of which is occupiable waste. Inam area has increased by 7·5 per cent. The following table shows the result in abstract :—

Items	Area by old survey.	Area by new survey.	Percentage of increase.
Total aysant	ACRES. 3,021,872	ACRES. 3,271,517	8·25
Deduct. { Perambaka and unclassified waste.	352,055	427,895	21·54
{ Inam	277,380	298,379	7·57
{ Total	629,435	726,274	15·2
Total Government area	2,392,436	2,545,243	6·38
Occupied Govern- ment lands. { Wet	79,879	85,601	7·50
{ Dry	2,113,561	2,259,445	6·48
{ Total	2,193,440	2,339,046	6·52
Unoccupied do. { Wet .. .. .	..	1,412	..
{ Dry .. .. .	..	207,745	..
{ Total	199,495	209,157	4·84

The following table abstracts the district area in acres by taluks :—

Taluks.	Total aysant by Revenue Survey.	Deduct.			Remainder.
		Perambaka.	Inam.	Total.	
Bharani ..	194,189	40,792	13,286	54,778	139,411
Coimbatore ..	379,104	46,427	22,317	68,744	301,360
Dhārāpūram ..	535,358	47,239	79,730	126,969	408,389
Erode ..	383,849	34,951	36,041	71,022	312,827
Karūr ..	357,982	31,562	54,924	86,486	271,496
Kallagāl ..	244,357	112,447	3,804	116,251	128,106
Palladam ..	472,899	39,669	44,699	84,369	388,530
Pollachi ..	245,251	22,460	14,740	37,206	208,045
Satyamsangalam ..	245,700	26,319	12,467	38,786	206,914
Udamalpet ..	218,933	25,739	15,894	41,633	177,295
Total ..	3,271,507	427,895	298,379	726,274	2,545,233

Taluks.	Occupied.			Unoccupied.			Percentage of unoccupied to total Government assessed area.
	Wet.	Dry.	Total.	Wet.	Dry.	Total.	
Bharani ..	1,392	120,072	121,364	77	17,970	18,047	12·94
Coimbatore ..	12,709	223,356	236,065	489	52,284	52,773	17·5
Dhārāpūram ..	7,117	382,319	389,436	36	18,917	18,953	4·84
Erode ..	8,382	293,708	302,090	273	9,904	10,177	3·27
Karūr ..	14,135	257,872	272,007	166	4,362	4,528	1·63
Kallagāl ..	5,787	57,824	63,611	162	51,472	51,634	50·4
Palladam ..	3,959	368,811	372,770	147	16,303	16,450	4·23
Pollachi ..	5,370	291,173	296,543	21	1,679	1,700	·53
Satyamsangalam ..	17,153	172,703	189,856	51	19,567	19,618	9·36
Udamalpet ..	8,797	166,243	175,040	70	2,285	2,355	1·22
Total ..	85,601	2,259,445	2,339,046	1,412	207,745	209,157	..

It is to be noted that since the settlement the unoccupied dry area has slightly increased by relinquishments and revenue sales for arrears of the famine years. These arrears, as also the holdings, were nominal, being the assessment on lands standing in the puttahs of deceased or long absent ryots, whose puttahs are by rule continued in the absence of formal relinquishment; also on lands held by pauper ryots who could not cultivate but had neglected to give relinquishment, hoping for remissions. In 1880-82 these nominal arrears and nominal holdings were almost entirely cleared away.

Omitting Palladam and Dhārāpuram, for which figures are not available, the following table gives the totals of former and present areas and assessments:—

Particulars.	Former accounts.			New settlement.				
	Area.	Assessment.		Area.	Assessment.	Second crop.		
		First crop.	Second crop.			Rate.	Area.	Assessment.
	ACRES.	RS.	RS.	ACRES.	RS.		ACRES.	RS.
Wet	65,267	432,322	67,710	74,726	472,572	} $\frac{1}{4}$ } $\frac{1}{2}$ } $\frac{3}{4}$	7,650	32,091
							6,843	14,896
Dry	1,893,675	1,311,543	..	1,409,316	1,445,724		20,771	26,009
Total ..	1,458,942	1,743,865	67,710	1,573,841	1,918,296	..	35,164	72,996
Defect fixed remissions .. ..	..	14,033	..	..	..	..	..	..
Net.,	1,462,942	1,729,832	..	1,573,841	1,918,296	..	..	..
Add second crop ..	..	67,710	67,710	..	72,996	..	..	..
Total ..	..	1,797,542	..	..	1,991,292	..	..	..

The next table shows the area and assessment under each rate for the whole district; 76 per cent. of the wet area is assessed at rates ranging from Rs. 8 to Rs. 3-8-0, 17 per cent. from Rs. 10 to Rs. 12, and 7 per cent. from Rs. 2½ to Rs. 3. In dry 88 per cent. is assessed at rates ranging from Rs. 1-4-0 to As. 8, 10 per cent. from Rs. 1½ to Rs. 2, and 2 per cent. from As. 4 to As. 6.

Wet or dry.	Rates.	Occupied.					Unoccupied.		
		Area.			Assessment of first crop.	Percentage of column 5 to total wet area.	Area.	Assessment of first crop.	Percentage of column 8 to total.
		Direct flow.	Baling.	Total.			Direct flow.		
1	2	3	4	5	6	7	8	9	10
Wet.	Rs. A. P.	ACRES.	ACRES.	ACRES.	RS.		ACRES.	RS.	
	12 0 0	5,529	..	5,529	26,360	0.46	5	64	0.36
	10 0 0	9,203	120	9,323	93,119	10.89	56	454	3.97
	8 0 0	17,483	83	17,566	1,40,457	20.52	163	1,301	11.66
	5 0 0	19,046	390	19,436	1,16,847	22.61	384	2,299	27.20
	5 0 0	12,363	185	12,548	62,568	14.98	308	1,541	21.81
	4 0 0	8,918	247	9,165	36,423	10.71	243	969	17.21
	3 8 0	6,367	83	6,450	22,408	7.54	144	600	10.19
	3 0 0	3,970	23	3,993	11,960	4.66	62	187	4.39
	2 8 0 Special rate.	1,119	2	1,121	2,799	1.21	47	118	3.33
	2 8 0	550	..	550	1,378	0.54	..	..	..
Dry.	Total ..	84,658	1,043	85,901	5,53,397	100.0	1,413	7,533	100.0
	2 0 0	16,113	..	16,113	32,230	0.72	63	126	0.3
	1 8 0	223,901	..	223,901	3,26,034	9.50	2,193	4,794	1.54
	1 4 0	409,327	..	409,327	5,11,663	18.19	11,774	14,711	6.67
	1 0 0	549,861	..	549,861	5,49,998	24.43	30,133	30,448	14.65
	6 12 0	612,007	..	612,007	4,69,781	27.24	66,115	48,847	21.34
	0 8 0	397,630	..	397,630	1,08,889	17.67	50,540	28,286	27.22
	0 6 0	37,436	..	37,436	14,046	1.65	37,336	14,008	17.97
	0 4 0	3,181	..	3,181	793	0.14	3,287	823	7.68
	Total ..	3,260,446	..	3,260,446	21,03,395	100.0	397,745	1,42,041	100.0
	Grand Total ..	3,335,603	1,043	3,336,046	26,56,792	100.0	209,167	1,42,674	100.0

The incidence of the new assessment is given talukwar in the next table:—

Taluka.	Wet or dry.	Pañi or year.	Old settlement.	New settlement.			Increase per cent. in area.	Increase per cent. in assessment.
			Average per acre.	Occupied area.	Single crop assessment.	Average per acre.		
Erode ..	Wet ..	1287	sq. A. P. 7 11 5	ACRES. 8,882	Rs. 71,811	sq. A. P. 8 0 10	0	14
	Dry ..	(1877-78)	1 1 3	293,798	5,16,884	1 1 3	0	9
	Total ..	..	..	302,590	5,88,695	..	9	10
Setyamangalam.	Wet ..	1288	8 0 5	17,193	1,49,392	8 11 4	5	14
	Dry ..	(1878-79)	1 2 0	172,703	1,90,607	1 1 8	9	7
	Total ..	..	..	189,896	3,39,999	..	9	10
Palladam ..	Wet ..	1288	5 11 2	3,559	34,033	6 1 2	6	12
	Dry ..	(1878-79)	0 15 7	368,811	3,76,441	1 0 4	1	6
	Total ..	..	..	372,370	4,09,474	..	1	7
Coimbatore.	Wet ..	1288	6 8 3	12,709	90,271	6 5 1	7	7
	Dry ..	(1878-79)	0 15 11	235,853	2,36,495	1 0 0	7	8
	Total ..	..	..	248,562	3,16,666	..	7	8
Bhavani ..	Wet ..	1287	5 10 5	1,292	6,512	5 0 8	13	..
	Dry ..	(1877-78)	0 14 7	120,972	1,67,992	0 14 6	9	8
	Total ..	..	..	122,264	1,74,504	..	9	8
Dhármapuram	Wet ..	1288	8 0 4	7,117	66,793	7 12 3	8	8
	Dry ..	(1878-79)	0 11 9	382,319	2,81,221	0 11 9	7	8
	Total ..	..	..	389,436	3,38,014	..	8	9
Karur ..	Wet ..	1288	5 2 9	14,135	73,724	6 3 5	6	7
	Dry ..	(1878-79)	0 11 19	251,872	1,81,898	0 11 7	9	6
	Total ..	..	..	266,007	2,55,622	..	9	6
Udumalpet.	Wet ..	1289	5 3 0	8,797	42,313	4 13 0	12	4
	Dry ..	(1879-80)	0 14 9	160,243	1,53,024	0 14 2	7	7
	Total ..	..	..	179,040	1,95,337	..	7	6
Pallachi ..	Wet ..	1290	4 0 0	5,779	26,672	4 10 0	13	15
	Dry ..	(1880-81)	0 14 5	201,175	2,04,697	1 0 3	5	19
	Total ..	..	..	206,954	2,30,769	..	6	18
Kollegal ..	Wet ..	1289	4 0 11	5,787	22,176	3 13 4	5	1
	Dry ..	(1879-80)	0 15 10	57,684	55,723	0 14 11	2	5
	Total ..	..	..	63,471	77,904	..	2	3
Total ..	Wet ..	..	6 5 6	83,601	5,52,297	6 7 5	8	10
	Dry ..	..	0 14 9	2,350,345	21,93,395	0 14 11	6	8
Grand Total ..			..	2,336,046	26,66,792	..	7	8

Hence it is clear that the incidence *per acre* is a trifle above that of the former settlement, viz., 2 per cent. on wet and 1½ per cent. on dry lands : owing, however, to the increase by survey, the *total* assessment is 8 per cent. above the former assessment.

The next table shows double-crop lands talukwar; Kollegal is omitted, having no such lands:—

Taluka.	Sources.	Permanent double crop at half.		Second crop compounded at				Total.	
				One-third.		One-fourth.			
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
1. Erode.	Kallagarayan channel ..	ACS. 7,346	RS. 32,081	..	..	..	..	ACS. 7,346	RS. 32,081
	Noyil river ..	..	..	..	..	475	620	475	620
	Rain-fed tanks ..	..	..	..	..	624	720	624	720
	Total ..	7,346	32,081	..	..	999	1,340	8,345	33,420
2. Sattamangalam.	Rain-fed tanks ..	..	..	..	..	119	134	119	134
	Total ..	..	..	..	..	119	134	119	134
3. Chinnai.	Noyil river channel and Kollar river ..	3	10	..	..	3,208	5,665	3,211	5,675
	Rain-fed tanks ..	..	..	..	..	669	690	669	690
	Total ..	3	10	..	..	3,777	6,355	3,780	6,365
	Total ..	3	10	..	..	3,777	6,355	3,780	6,365
4. Palladam.	Noyil river ..	..	..	..	..	2,579	3,982	2,579	3,982
5. Bhavani.	Bhavani river channel drainage ..	..	..	..	..	126	174	126	174
	Rain-fed tanks ..	..	..	..	..	1,166	1,464	1,166	1,464
	Total ..	..	..	..	..	1,292	1,638	1,292	1,638
	Total ..	..	..	..	..	1,292	1,638	1,292	1,638
6. Dharmapuri.	Amravati channel ..	..	..	..	..	2,181	4,762	2,181	4,762
7. Karur.	Canvey ..	..	..	4,203	5,903	..	..	4,203	5,903
	Rain-fed tanks ..	..	..	..	..	875	781	875	781
	Amravati river channel ..	..	..	..	..	8,219	10,221	8,219	10,221
	Total ..	..	..	4,203	5,903	9,094	11,002	13,347	16,905
8. Udumalpet.	Amravati river channel ..	..	..	2,590	5,993	2,076	2,225	4,666	8,218
	Jungle stream and rain-fed tanks ..	..	..	..	..	2,831	2,593	2,831	2,593
	Total ..	..	..	2,590	5,993	4,907	4,818	7,497	10,811
	Total ..	..	..	2,590	5,993	4,907	4,818	7,497	10,811
9. Pollachi.	Chinnai river ..	..	..	..	..	469	613	469	613
	Jungle stream and rain-fed tanks ..	..	..	..	..	124	110	124	110
	Total ..	..	..	..	..	593	723	593	723
	Total ..	..	..	..	..	593	723	593	723
Grand Total ..		7,549	32,091	6,843	14,896	25,531	34,743	39,923	81,730

The result of the settlement is that the area has been increased 6½ per cent. by the survey, while the assessment has been increased by 8 per cent., or a little over 2 lakhs of rupees. It is to be noted that though the increase is almost entirely due to excess in area, and not to

increase of assessment *per acre*, yet that the increase is a true increase to the *ryot* to the full extent, since he has hitherto held land, equal to $8\frac{1}{2}$ per cent. of his holding, in excess of what he has paid for; in other words, he has annually paid less by one anna in the rupee than he now pays for an equal area, or has virtually obtained total remission in every 16 years. This was due to imperfections in the old survey or to encroachments during a series of years. It is obvious that the new settlement has taken, by its revision of assessments, no share of the profits due to the *ryots'* capital or energy, and but an inappreciable share of the increment due to public progress outside of the *ryot*.

The demarcation and survey were begun in 1860 and the classification in 1872. The settlement was completed in 1882, the total outlay for survey and settlement being Rs. 19,65,870 as under noted:—

	RS.
Demarcation	4,17,142
Survey	10,48,974
Classification and settlement	4,99,754

The increase of revenue was Rs. 2,10,223, giving a return of 10 $\frac{1}{4}$ per cent. on the outlay. The benefits of the settlement do not consist in enhanced revenue, but in the certainty and accuracy of areas, equality of existing assessments, and the permanent recording in printed registers, and accurate maps on a large scale, of the areas and assessments of every field.

Special details for each taluk follow.

BHAVANI.—This taluk was settled from August 1878 to February 1879, the preliminary classification, &c., having been as usual personally conducted by Mr. Clogstoun.

The result of the settlement was 62 villages surveyed and settled with an area of 194,189 acres (303 square miles), being an increase of 13·3 per cent. on the old area; for particulars, see district table. Four villages (Puttur, Nadukaval, Bargur, Palamalai) were excluded from demarcation and settlement as they were hill or jungle villages.

The irrigation is of the third group, being from rain-fed tanks, except under one tank fed by drainage from a Bhavani channel, which is placed in the second group.

Of dry villages, 50 are in the first group, and 12—adjoining hills and jungles and in unhealthy localities—are in the second group.

Of the wet area as found by survey, no less than 547 acres out of 1,832 were transferred to dry, being unirrigable, while only 4 acres were transferred from dry to wet.

Soil classification for occupied lands only is shown in the following table:—

Soil.	Black loam 4.	Black sand 5.	Red loam 7.	Red sand 8.	Total.
Wet	1,022	5	226	39	1,292
Dry	3,262	408	14,555	101,847	120,072
Total ..	4,284	413	14,781	101,886	121,364

The bulk of the dry lands (about 97 per cent.) are in the red series, of which only a small portion is red loam, about 87½ per cent. of the total being red sand (class 8). The financial results are shown in the district table.

Under dry there was a survey excess of about 10,000 acres, and a consequent increase in assessment of Rs. 6,762; in wet there has been an increase of only Rs. 3, in spite of a net survey excess of 145 acres, owing to the general reduction of the rates. The average net rate is Rs. 6-4-10 as against Rs. 7-1-5 of the old settlement, while the average dry rate is As. 14-6 as against As. 14-10. In certain unsurveyed tracts that were brought under settlement the average new rate is As. 9-5 against As. 9-11.

Second-crop composition rate was one-fourth, and the second-crop assessment over the whole wet area was accordingly compounded for. There was previously no separate second-crop assessment, one consolidated charge having been levied.

COIMBATORE.—As amalgamated and divided, the villages number 268, of which 254 are Government, 5 shrotriam and inam, and 9 unsurveyed and excluded from settlement. The increase by survey was 31,510 acres or 9 per cent. The irrigation (Nôyil and Kallár rivers and rain-fed tanks) is of the second and third groups.

Soil classification is as follows:—

Description.	Classi- fication.	Wet.						Dry.	
		Second group.		Third group.		Total.		First (only) group.	
		Class.	Occupied.	Unoccu- pied.	Occupied.	Unoccu- pied.	Occupied.	Unoccu- pied.	Occupied.
Black {	Clay ..	III	12	..	126	..	126	..	10,948
	Loam ..	IV	8,465	275	522	1	8,987	276	17,061
	Sand ..	V	..	..	..	..	..	..	497
Red. {	Loam ..	VII	3,437	133	139	..	3,576	133	76,252
	Sand ..	VIII	4	..	16	..	20	..	121,200
Total Black ..			8,465	275	648	1	9,113	276	38,406
Total Red ..			3,441	133	155	..	3,596	133	197,462
Grand Total ..			11,906	408	803	1	12,709	409	235,858

It will be seen that black clay, black loam, and red loam are well represented in the dry soils of this taluk, and that the dry waste is

about 18 per cent. of the whole dry area. The wet lands of the second group embrace every rate from Rs. 12-8-0 including second crop, to Rs. 3-8-0, the bulk of the lands being in the medium rates assessed at from Rs. 10 (double crop) to Rs. 5 single crop.

The result of the settlement is a net increase of 7 per cent. in extent and assessment, viz., of 868 acres and Rs. 5,550 under the head of irrigated, and of 15,933 acres and Rs. 16,241 under the head of dry; on the whole, of 16,801 acres in extent and of Rs. 21,791 in assessment.

The increase in area corresponds with that in assessment; but the real increase has fallen on the better classes of soil. The tracts of rich black cotton soil or loam were for the most part originally assessed much below their true value; they have now been assessed at Rs. 2, Rs. 1-8-0, and Rs. 1-4-0 per acre, and yield an increase of Rs. 10,542, while the survey increase is only 2,785 acres. The increase on the poorer classes of dry land is due entirely to increase of area by survey, and in the last two classes there is a reduction in assessment but an increase in area.

The unoccupied wet land is almost entirely in the rates from Rs. 6 to Rs. 3-8-0, and 45,374 acres out of 52,384 dry waste are in the rates from 12 to 6 annas.

The total cultivable area, occupied and unoccupied, is as follows:—

Government land.					Area.	Assessment.
					ACRES.	RS.
Wet	..	..	..	..	13,118	58,921
Dry	..	..	..	..	288,242	270,613
Total ..					301,360	329,534

The subjoined statement exhibits the number of villages under the several sources of irrigation, with the survey area and the settlement assessment of the irrigated area under each source.

Sources of irrigation.	Number of villages.	Occupied.		Unoccupied.		Inam.		Total.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment (nominal).	Area.	Assessment.
<i>Second Group.</i>		ACRES.	RS.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Nôril channels and tanks, and minor streams	23	11,906	62,022	408	2,781	2,229	15,498	14,543	99,801
<i>Third Group.</i>									
Rain-fed tanks and jungle streams ..	16	803	4,614	1	4	75	408	880	5,026
Total ..	39	12,709	66,636	409	2,785	2,304	15,906	15,423	1,04,827

The rate of composition was one-fourth; but only 3,779 were compounded for out of 12,709 in occupation. The reasons for non-composition in the case of the sugar-cane and cocoanut plantations which surround Coimbatore will be found in paragraph 22 of Mr. Clogstoun's reply to Mr. Wedderburn, but it is not certain whether the settlement was in accordance with his proposal.

DHARÁPURAM.—Eighty-one villages were formed into 82 with an aggregate area of 535,358 acres, or 837 square miles; for the distribution of this area, see district table. The unoccupied area is 4·6 per cent. of the total cultivable land; only 36 acres of wet land, mostly tank-fed, are unoccupied.

Irrigation.—The irrigated area is only 1·80 per cent. of the occupied land; 378 acres were transferred from wet to dry, and only 19 from dry to wet. The best irrigation is that under the Álangayam, Dhárápúram, and Kolinjivádi channels, the lands under which were placed in the first group, and the others in the second group. The dry lands are all in the first group.

Incidence of assessment.—The highest-wet rate is Rs. 12; 66 per cent. of the wet area is assessed at Rs. 8 and under. Only 23 per cent. of dry lands are assessed at 1 rupee and upwards, while 77 per cent. are rated at 12 annas and under. On wet land the increase in assessment is 8 per cent., which is equivalent to the excess in area; on dry the increase in assessment is 6 per cent. against an increase of 7 in area. The average wet assessment is Rs. 7-15-8 and dry As. 11-9 per acre.

The second-crop assessment was compounded for at one-fourth rate on 2,181 acres. Cultivable waste was only 18,917 acres of dry land assessed at an average of As. 9-8, and 36 acres of wet land at an average of Rs. 5-10-3 per acre.

ERODE.—This taluk was settled between March and August 1878. No villages were subdivided or clubbed, though many of the 210 villages are very small.

The result in area is shown in the district table.

There being no hills or jungles, the whole of the dry lands were placed in the first group; the wet lands were of all three groups, those under the Kalingaráyan being in the first group, those under the Náyil (only two tanks) in the second group, and those under ruin-fed tanks in the third group.

The following table shows in acres the wet and dry areas as settled :—

Description.	Occupied.		Unoccu- -pied.	Inam.	Total.
	Area.	Assess- ment.			
	ACRES.	RS.	ACRES.	ACRES.	ACRES.
Wet	8,882	1,04,041	273	921	10,076
Dry	293,798	3,16,884	9,904	29,120	332,792
Total wet and dry ..	302,590	4,21,825	10,237	30,041	342,868

Three hundred and sixty-seven wet acres were transferred to dry, these being all under rain-fed tanks, and usually no longer irrigable by reason of want of repair in the tanks or by deficiency of supply.

The soil classification for occupied lands is as follows:—

Description.					Black loam per cent.	Red loam per cent.	Red sand per cent.	Total.
Wet—								
Kalingarayan	..	..	..	..	31	65	1	100
Neyil	..	..	..	..	47	43	10	..
Tanks	..	..	..	..	43	56	1	..
Total	..	..	..	..	* 32½	65	14	..
Dry	..	..	..	..	0·1	17	82·9	..
					ACRES.	ACRES.	ACRES.	
Wet	..	..	..	..	2,876	5,859	147	8,882
Dry	..	..	..	..	352	50,505	242,851	293,708
Total					3,228	56,340	242,998	302,590

* Half per cent. black sand.

The increase in area is 9 per cent. in wet and 9 in dry, while in assessment it is 9 per cent. on the whole, but 13 per cent. in wet and 8 per cent. in dry.

It will be seen that the average dry rate is Rs. 1-1-3 per occupied acre as before the settlement; of the 293,708 occupied dry acres, 78 per cent. are assessed at 1 rupee and upwards, and only 22 per cent. below, while less than 4 per cent. of the whole area is assessed below 12 annas. Regarding the increase in dry assessment the Deputy Director observes that "the survey excess of acres 23,116 at Rs. 1-1-3 per acre would account for Rs. 24,922 out of the net increase of Rs. 25,971." But as the survey excess "is but nominal in many cases, consisting of much unprofitable area, such a large portion cannot be attributed solely to that head;" apparently much of the excess was entered as peramboke, being uncultivable. The increase is in fact an increase in assessment per acre of land actually cultivated, and the Deputy Director attributes it to the rectification of anomalies in assessments, and the levying of proper rates on the superior lands; the table shows that the largest increase is in lands assessed at Rs. 1-4 and 1-0. The actual decrease in peramboke is probably due to persistent encroachment, especially by owners of wells, who are of course anxious to extend the area of the valuable gardens. This is still habitual.

For wet lands the average rates are higher than similar averages arrived at in other districts, because above seven-eighths of the lands are under the Kalingarayan, which is a first-class source; the Deputy Director, however, observed in paragraph 7 that this irrigation was ordinary in the middle, and very inferior in the last few villages. It may be doubted whether any part can be called very inferior except as compared with the upper part of the channel; an excellent single crop is always procured even at the tail of the channel.

The consolidated second-crop assessment with area and rates of composition is shown in the preceding table; all wet lands have had the second-crop assessment compounded for, except 329 acres on the right (natural) bank of the Kalingaráyan channel, but composition is now largely extending on this area also.

Two hundred and seventy-three acres of wet waste are available for cultivation, of which 116 are in the first group. These are chiefly B. class railway lands now handed back to the revenue authorities and about to be sold to ryots. Dry cultivable waste is only 9,964 acres, or 3 per cent. of the total cultivable dry area; except 563 acres at 8 and 6 annas, the whole of this is assessed at from Rs. 1-8 to 12 annas; there are in Arachalúr alone above 3,000 acres of dry stony waste which has never been cultivated, chiefly assessed at 12 annas.

It is obvious that the increase in revenue or in produce in this taluk by increase in cultivated area can never be anything but trifling.

KARÚR.—There are now 95 villages in this taluk, 88 being Government and 7 pálayaipat. The Government villages contain 3,57,862 acres, or 559 square miles, being an increase of 23,249 acres, or 7 per cent., upon the former registered area. The surveyed area is shown in detail in the district table.

The unoccupied area is only 1-8 per cent. of the total Government land.

Wet lands irrigated by the Cauvery are in the first group, those under the Amarávati in the second, and those watered by jungle streams and rain-fed tanks in the third. "The dry lands, though generally inferior to those in the upper taluks of the district, are all placed in the first group, as they are generally on the plains with no jungles and large hills, and with similar conveniences everywhere of roads and fairs."

One thousand two hundred and nineteen acres of nominal wet were transferred to dry, and 121 of dry to wet. The assessed area is divided as follows:—

Items.	Occupied.		Unoccupied.	Inam.	Total.
	Area.	Assessment.			
Total wet area ..	ACRES. 14,135	RS. 93,629	ACRES. 166	ACRES. 1,589	ACRES. 16,190
Do. dry do. ..	251,572	1,51,998	4,603	53,035	309,710
Total wet and dry ..	266,007	2,75,627	4,969	54,924	325,900

"Classification of Soil.—Under the head of wet irrigated, 1,109 acres out of 4,253 acres under the Cauvery irrigation, or 26 per cent., is black loam and clay; 3,067 acres, or 72 per cent., red loam; 77 acres, or 2 per cent., red sand. Under the Amarávati irrigation 8,723 out of 9,007 acres, or 97 per cent., is red loam; 284 acres, or 3 per cent., is red sand; and under the irrigation by the rain-fed tanks the entire area of 875 acres is red loam,

There exists no pure black soil under the irrigation from the Amarávati jungle-stream, and rain-fed tanks. Any show of black colour apparent here and there in small or large patches of fields or parts of fields is due to the red soil taking partial colour from constant manuring with ashes and leaves, or by the substratum of limestone or intermixture of soda, lime and other bad ingredients; the natural ingredient is red soil, and the lands have therefore, for reason's sake and uniformity, been treated as red soil.

"Under the head of dry there is little or no black soil. There are only a few acres of dry treated as black, being intermixed with wet lands of black loam. The rest is all red series. Out of 251,872 acres of dry 16,243 acres, or 7 per cent., is red loam, and 235,627 acres, or 93 per cent., is red sand. The predominating soil both in dry and wet is red. The following table exhibits the occupied area under each class and sort of soil, wet and dry.

Soil.	Wet.				Dry.
	Area.				Area.
	Group I.	Group II.	Group III.	Total.	
	ACRES.	ACRES.	ACRES.	ACRES.	ACRES.
Black	1,109	..	..	1,109	2
Red loam	3,067	8,723	875	12,665	16,243
Do. sand	77	284	..	361	235,627
Total ..	4,253	9,007	875	14,135	251,872

"The increase in area is acres 20,847, or 9 per cent., made up of an increase in wet of 794 acres, or 6 per cent., and 20,053 acres in dry, or 9 per cent.

"The percentage of increase in assessment is 4 per cent. on the whole, or 6 per cent. deducting fixed remissions, while it is 6 per cent. in wet and 3 per cent. in dry, or 5 per cent. excluding fixed remissions and permanent loss by transfer of items.

"Under the head of wet 2,117 acres out of 14,135, or 15 per cent., are assessed at Rs. 10 and above up to Rs. 13-5-4; 5,855 acres, or 41 per cent., from Rs. 6-4-0 to below Rs. 10; and 6,163 acres, or 44 per cent., at rates below Rs. 6½ down to Rs. 2½. The highest rate of Rs. 13-5-4 is fixed for the good lands under the Cauvery and the lowest rate for the irrigation by baling in the worst lands under the Amarávati.

"In the villages irrigated by the Amarávati alone the rates range from Rs. 10 to 2½, and in those under the rain-fed tanks and jungle streams from Rs. 5 to 3-12-0.

"Under the head of dry lands, 62,622 acres out of 251,872 acres, or 25 per cent., are assessed at 1 rupee and up to Rs. 1-8-0; 88,208 acres, or 35 per cent., at 12 annas; 89,701 acres, or 36 per cent., at 8 annas; and only 11,341 acres, or 4 per cent., at 6 annas per acre.

"The average rates of assessment per acre arrived at in the settlement is for wet lands Rs. 6-12-8 consolidated and Rs. 5-3-5 single crop per acre by settlement, against Rs. 6-12-6 consolidated and Rs. 5-2-9 per acre single crop by the revenue accounts; and for dry lands Rs. 11-7 per acre by settle-

ment against As. 12-3 including remissions, or more accurately As. 11-10 excluding remissions as per revenue accounts.

"All the irrigated area in the first, second, and third groups has been compounded for the second-crop charge, excepting 788 acres in a few villages under the Amarávati in the second group, which have never generally grown a second crop for a series of years, and which the ryots wanted to be retained as single crop. When a second crop is raised in highly favorable years water-rate will have to be paid on these lands. As in the Bhaváni and Erode taluks, there existed hitherto no distinction of single and double crop in this taluk. The ryots paid the same fixed assessment on their lands, how many crops so ever they cultivated, without any additional charge for additional crops.

"The rate of charging for second crop in the consolidation for the first group under the Cauvery is one-third of the single-crop charge, and that in the second and third group villages is one-fourth of the single-crop charge. The more lenient rates of the second-crop charge have been adopted in consideration of the precarious supply for the second-crop cultivation for want of anicuts generally and for the reason of the great labour and expense that the ryots undergo in keeping up their korambu or temporary dams in the river and clearing their channels."

KOLLEGÁL.—There were 152 villages in this taluk, of which 3 were shrotrieni and 58 were jungle and hill villages excluded from survey and settlement. The remaining 91 villages comprise an area of 244,357 acres or 382 square miles; see district table for distribution of this area.

This taluk differs entirely from the rest of the district: "its soil is excellent, the crops good, the rainfall the best in the district and well distributed over the year, but its population is sparse, cultivation in the outlying villages patchy and scattered, and the country extremely unhealthy."—(*Vide* Board's Proceedings, No. 19, dated 11th January 1881.)

The occupied wet area was 5,787 acres, assessed at Rs. 22,176.

There is a decrease below the old assessment of Rs. 2,914 or 4 per cent., viz., Rs. 207 or 1 per cent. on wet land, and Rs. 2,707 or 5 per cent. on dry land. The average rate per acre on river-irrigated land is Rs. 3-13-3 against Rs. 3-13-4 by the old accounts; the average dry rate is As. 14-2 as against As. 15-11 before settlement. The decrease is due to favourable consideration having been given to the jungly, hilly, and wild character of the taluk.

Soils are classified as follows:—

Description.	Class.	Wet.		Dry.		Total.	
		Occu- pied.	Un- occupied.	Occu- pied.	Un- occupied.	Occu- pied.	Un- occupied.
Black loam ..	4	2,623	57	11,140	2,046	13,763	2,103
Do. sand ..	5	2,762	92	898	230	3,660	319
Red loam ..	7	352	5	40,238	43,997	40,640	44,003
Do. sand ..	8	50	..	5,333	18,210	5,406	18,210
Total ..	..	5,787	162	57,684	64,473	63,471	64,635

PALLADAM.—This taluk was settled in the first half of 1879, the villages numbering 195, and the area being 472,899 acres or 739 square miles. See district table for distribution of this area.

The present wet area is 4,568 acres as against 5,651 before settlement, and is only a little over 1 per cent. of the total occupied area. The lands are all of the second and third groups, there being 14 villages in the second and 28 in the third.

The whole of the dry lands are placed in the first group, there being no outlying villages.

Twenty-seven per cent. of the wet lands are assessed at Rs. 8, and 73 per cent. at Rs. 6 and under. Of dry lands, 61 per cent. are assessed at 1 rupee and upwards and 39 per cent. below that rate, 27 per cent. being at 12 annas. There is about 4.4 per cent. of waste available for future occupation. Colonel Stuart writes:—

"The increase in dry is 5 per cent. against 7 proposed, and the average of the settlement is slightly higher than was anticipated; but, bearing in mind that a portion of the taluk contains good cotton soil and that the old well lands (assessed at Rs. 1-8-0 per acre) have been most leniently dealt with, the trifling enhancement in the average cannot be considered oppressive. It will be noticed that, though the occupied area as per revenue accounts of Fasli 1287 is identical with that adopted in Mr. Clogstoun's report, the assessment exhibits a great increase over the latter; this, I must explain, is owing to the inclusion of temporary remissions and tirva-jāsti, both of which were excluded from Mr. Clogstoun's calculations. The wet area shows an enhancement over the proposal which is attributable to the retention under that head of certain lands treated as dry by Mr. Clogstoun, but which on subsequent inspection under the orders of my predecessor were found to be irrigable. The average (Rs. 6-1-3) almost tallies with Mr. Clogstoun's proposal. The result of the settlement in this taluk is an increase over the revenue demand by Rs. 20,466 or 5 per cent. against an increase in area of 5,031 acres or 1 per cent."

In the matter of double crop the peculiar custom was found of levying the full nominal assessment on drupayir (or orchard) cultivation, but remitting one-third of the assessment upon paddy, whether one or two crops were raised. The rate of composition in the settlement was one-fourth throughout, and the results are shown below:—

Total occupied.	Total compounded for.	Assessment.			Old settlement.		
		First crop.	Second crop.	Total.	First crop.	Second crop.	Total.
ACRES. 3,359	ACRES. 2,579	RS. 15,918	RS. 3,982	RS. 19,900	RS. 14,179	RS. 6,024	RS. 20,203

POLLACHI.—This taluk contains 168 villages, viz., 131 Government and 37 pālsiyapat villages; the former comprise an area of 245,251 acres or 383 square miles. There is besides a vast area of hill and forest. See district table for distribution of area.

Wet lands under the minor rivers are placed in the second group and all others in the third group. Dry lands are all in the first group, since those near the forests have superior soil and are almost virgin lands with good roads and markets.

Classification of Soil.—Under the head of wet, 5,238 acres or 91 per cent. out of 5,770 acres consist of red soil, of which 4,708 acres or 82 per cent. is red loam, mostly of a more sandy consistence, and 530 acres or 9 per cent. red sand; the remaining 532 acres or 9 per cent. black soil, consisting of 414 acres black loam and 118 acres black sand.

Under the head of dry, 187,154 acres or 93 per cent. out of the total area of 201,175 acres consist of red soil, of which 77,851 acres or a little less than 39 per cent. are red loam more or less bordering on sand, and 109,303 acres or a little more than 54 per cent. red sand, and the remainder 14,021 acres or 7 per cent. is black soil, of which 7,118 acres or a little less than 4 per cent. are black clay, and 6,867 acres or a little more than 3 per cent. black loam, consisting mostly of purely black cotton loam and partly of rich alluvial loam near jungle streams possessing dubious colour, partly red and partly black, and richly cultivated, and containing mostly areca and cocoanut tops and other valuable garden produce."

Description.	Black clay 3.	Black loam 4.	Black sand 5.	Red loam 7.	Red sand 8.	Total.
Wet .. ..	..	414	118	4,708	530	5,770
Dry	7,118	6,867	36	77,851	109,303	201,175
Total ..	7,118	7,281	154	82,559	109,833	206,946

Incidence of assessment.—The increase in area is 6 per cent., viz., 13 per cent. in wet and 5 per cent. in dry lands. Assessment has increased by 18 per cent., viz., 13 per cent. in wet and 17 per cent. in dry lands. The increase on dry lands is chiefly due to the enhancement of unduly low rates "in the villages adjoining the Ánaimalai hills on the southern frontier, and in those of the Kinattukadavu division in the north-western frontier of the taluk that command better advantages of soil and produce, favoured as they are more abundantly with the south-west monsoon than the other parts."

Under the head of wet, 3,168 acres out of 5,770 acres are assessed at Rs. 5 and above up to Rs. 7-8-0; 1,242 acres at Rs. 4; and the remaining 1,360 acres are assessed at Rs. 3-8-0 and below up to Rs. 2-8-0.

Under the head of dry, 125,495 acres out of 201,175 acres are assessed at 1 rupee and upwards up to Rs. 2 per acre, and the remainder acres 75,680 at As. 12 and below up to 6 annas. Under the lowest rate of 6 annas per acre there is only a trifling extent of 153 acres which are extremely poor.

"The highest rate of Rs. 2 has been fixed on the best black cotton lands on the eastern borders of the taluk and on the richest garden lands elsewhere containing rich alluvial deposits on low levels, mostly near good jungle streams, and consisting of rich gardens with valuable produce, which have hitherto been paying mostly a little more than 2 rupees an acre. The next highest rate of Rs. 1-8-0 has been fixed on good lands with or without walls in the cotton plains, and the best lands in the red soil tracts favorably situated on low levels and mostly with wells, where alone the best red soil more or less exists in dry. The lowest rates of 8 annas and 6 annas are fixed on the inferior and worst lands containing rocks, gravels, or situated in jungly and feverish places."

Composition for second crop at one-fourth rates was only effected on 583 acres of wet land out of 5,770.

There are only 31 acres of wet land, and 1,079 of dry land unoccupied, the total of 1,100 acres being only 5 per cent. of the total culturable area.

One hundred and thirty acres of land on the hills were not brought under settlement.

SATTYAMANGALAM.—This taluk was settled from August 1878 to March 1879.

Out of 233 villages 79 were deducted, being jungle and hill villages excluded from survey and settlement operations. Of the remaining 154, 150 were amalgamated into 146 and settled in the usual course; 4 unsurveyed villages were also settled at new rates, the total being 150 settled villages. The increase by survey is 18,779 acres or 8 per cent. in the settled villages; the comparison is with the accounts of Fasli 1288.

Particulars of area will be found in the district table.

Notices of the irrigation and the waste of water in the sluices will be found in the taluk description and under the head of "Irrigation."

The whole of the dry lands in the above 150 villages were entered in the first group; the wet lands in all three groups. Mr. Clogston's scheme showed 8 villages containing third group wet lands under inferior tanks; the whole of the wet lands in six of these villages being unirrigable, were transferred to dry. The result of the revision of irrigated area is shown below:—

	Occupied.		Unoccupied.	Inam.	Total.
	Area.	Assessment.			
	ACRES.	RS.	ACRES.	ACRES.	ACRES.
	17,153	149,392 (single crop).	50	644	17,847

The percentage and area of the various soils is shown in the following table; there are only 21 acres of black sand:—

—			Total area.	Black loam.	Red loam.	Red sand.	Total.
			ACRES.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Wet	..	..	17,204	60.57	39.43	..	100
Dry	..	..	192,270	3.03	39.25	56.71	100
Occupied—				ACRES.	ACRES.	ACRES.	
Wet	..	..	..	16,399	6,749	5	17,153
Dry	..	..	..	5,193	56,389	112,211	172,793
Total ..			..	15,502	62,138	112,216	189,856
Unoccupied—							
Wet	..	..	..	25	26	..	51
Dry	..	..	..	790	2,789	16,028	19,567
Grand Total ..			..	16,277	64,927	128,244	209,474

The extent of unoccupied lands in survey villages is 51 acres of wet, assessed at Rs. 403, all save 1 acre being direct flow lands, and 19,567 acres dry, or nearly 10 per cent. of the total settled dry area, assessed at Rs. 16,163, the bulk of these latter being assessed at from 1 rupee to 8 annas. The results of the settlement compared with those of the old settlement are as follow for occupied lands :—

—	Area.			Assessment.			Average rates.	
	Wet.	Dry.	Total.	Wet.	Dry.	Total.	Wet.	Dry.
	ACRES.	ACRES.	ACRES.	RS.	RS.	RS.	RS. A. P.	RS. A. P.
New settlement ..	17,153	172,703	189,856	1,40,526	1,90,607	3,40,133	8 11 4	1 1 8
Old settlement ..	16,325	158,134	174,459	1,31,979	1,78,511	3,10,490	8 1 3	1 2 1
Difference ..	818	14,569	15,387	17,547	12,096	29,643	+ 0 10 1	- 0 0 5

Part of the above increase is due to a survey excess amounting to 5 per cent. on the area of wet lands, and 9 per cent. of dry lands. The remaining increase is due to rectifications of assessment. Mr. Arundel states as follows with regard to wet land :—

“As a proof of the extreme moderation of the Government demand on wet land, it may be remarked that if the commutation price of unhusked rice were fixed on the average of prices from 1865 to 1875 instead of from 1845 to 1865, the rates of assessment for irrigated land would vary from Rs. 23 per acre for the best land down to Rs. 6 for the worst. The rates now imposed, however, vary from Rs. 12 to Rs. 2.

“Only a trifling area was taken on compounded one-fourth rates for double crops, and this was under rain-fed tanks (group 3), where wells had been dug to supplement the tank supply. Under the Bhavani channels the supply of water has been considered insufficient for two crops, and accordingly a single crop only is usually grown.”

Fixed remissions, which were very trifling, were as usual done away with.

The 4 unsurveyed villages were settled at the new rates upon old areas; the Deputy Director remarks that there was no reason for not surveying them as they were as easy of access as others lower down, and 3 of them are under regular irrigation from the Kanyampálaiyam anicut on the Bhaváni. They are entered in the first dry and third wet groups.

UDAMALPET.—There are 89 Government villages in this taluk, which contains 218,938 acres or 342 square miles, showing an increase of 8 per cent. The occupied lands show an increase of 7 per cent., while the unoccupied gave a decrease of 34 per cent. upon the nominal area; it is clear that encroachment had largely taken place. See district table for distribution of the surveyed area.

Wet lands are in all three groups; dry lands in the first group only. Totals are as follow:—

Particulars.	Occupied.		Unoccupied.	Inam.	Total.
	Extent.	Assessment.			
	ACRES.	RS.	ACRES.	ACRES.	ACRES.
Wet area	8,797	53,124	70	806	9,763
Dry area	166,243	153,024	2,385	14,909	183,457
Total wet and dry ..	175,040	306,148	2,355	15,804	193,199

Unoccupied land is only 1.33 per cent. of the total Government cultivable area, and is below the average in quality.

Eighty-three per cent. of the wet soils are in the red series; 77 per cent. of the dry lands are also in the red series, 15 per cent. being red loam and 62 per cent. red sand; of the remaining 23 per cent., 11 per cent. is black clay and 11 per cent. black loam. Details are shown in the following table:—

Description.			Class.	Wet.				Dry.
				Area in acres.				Acres.
				First group.	Second group.	Third group.	Total.	
Black.	Clay	.. ..	3	..	..	791	791	20,414
	Loam	.. ..	4	..	..	613	613	18,108
	Sand	.. ..	5	..	..	81	81	641
	Total	..	..	..	..	1,485	1,485	39,063
Red.	Loam	.. ..	7	3,533	2,296	1,307	6,126	24,340
	Sand	.. ..	8	137	307	292	636	102,840
	Total	..	..	3,660	2,503	1,590	6,762	127,180
Grand Total			..	3,660	2,503	3,084	8,247	166,243

There are also 550 acres of wet land at a special rate, of which the soil classification is not given.

In black dry lands, 87 and 70 per cent. are in the second and third sorts of each class, and in red lands 75 and 94 per cent. are in the second, third and fourth sorts.

The actual increase by settlement is Rs. 12,316, or 6 per cent. on the existing revenue. This the ryots have actually to pay to Government over the usual demand. The increase in area is 7 per cent., made up of an increase in wet of 945 or 12 per cent., and 10,555 acres in dry or 7 per cent. The excess in area is said to be largely due to the inclusion of unprofitable patches, banks, hedges, etc.²

"Under the head of assessment the percentage of increase is 5 on the whole, and, excluding the fixed remissions and other permanent loss, 6. In wet the increase of assessment is 4 per cent. and in dry 5, or, excluding remission, 6 per cent.

"Under the Amarāvati irrigation the increase of assessment is 5 per cent. in the first group and 3 per cent. in the second. In the third group villages, which consist of irrigation from jungle streams and rain-fed tanks, it is 0.3 per cent.

"Under the head of wet, 1,471 acres out of 8,797 acres, or 17 per cent., is assessed at Rs. 10 and above up to Rs. 13-5-4 per acre; 4,050 acres, or 46 per cent., at Rs. 5 and above up to Rs. 10; and 3,276 acres, or 37 per cent., at rates below 5 rupees down to Rs. 2-8-0 per acre. The highest rate of Rs. 13-5-4 per acre is fixed on the best lands in the first group under the Amarāvati irrigation, and the lowest rate of Rs. 2-8-0 per acre is imposed on the worst lands under the rain-fed tanks and on the lands held on special rate in a jungly tract under the Amarāvati irrigation, as per G.O., dated 23rd December 1862, No. 2673. Entering into details, the rates of assessment under the Amarāvati irrigation range in the first group from Rs. 13-5-4 to Rs. 4 per acre, and in the second group from Rs. 10 to Rs. 2-8-0 per acre and in the third group under the jungle streams and rain-fed tanks from Rs. 7-8-0 to Rs. 2-8-0.

"Under the head of dry, 76,368 acres out of 166,243 acres, or 46 per cent., assessed at 1 rupee and upwards up to Rs. 2 per acre; 43,032 acres, or 26 per cent., at 12 annas; 42,252 acres, or 25 per cent., at 8 annas; and only 4,591 acres, or 3 per cent., at 6 annas per acre.

"The average rates of assessment per acre arrived at in the settlement are for wet lands Rs. 6-4-5 consolidated and Rs. 4-15-5 single crop per acre by settlement, against Rs. 6-11-10 consolidated and Rs. 5-5-5 single crop per acre by the revenue accounts, and for the dry lands As. 14-9 by settlement against As. 14-11 including remission, or more accurately As. 14-9 per acre excluding fixed remission as per revenue accounts.

"Those obtained on the irrigated in the first group villages under the Amarāvati are Rs. 9-2-8 per acre by settlement against Rs. 9-13-11 by the revenue accounts. This average is slightly higher than that arrived at on the first group irrigation under the Cauvery in the Karār taluk and is

² Recent jamabandi enquiries show that encroachments in this taluk are habitual and extensive, and have taken place even since the survey.

satisfactory. The averages arrived at for the second and third groups by the settlement are Rs. 5-5-5 and Rs. 4-8-9 against Rs. 5-15-2 and Rs. 4-13-0 per acre as per revenue accounts."

Present system.—The present system, viz., the ancient ryotwari system modified as noted in the foregoing pages, is as follows. Its keynote is complete freedom or non-interference, except in the matter of revenue collection. Provided the dues are paid the ryot "need never see the face of the tahsildar" (E. B. Thomas), and unless he modifies his holding or its conditions he need see no other officer, high or low, beyond those of his village, and then only to mention his crops for No. 1 account, or pay his assessment. His dues depend no longer on his own capacity or solvency, nor upon the nature of his crops, but solely on the fields he holds, and there is absolutely no restriction on the agricultural use he may make of his lands, whether in leaving his land waste or cultivated, whether he digs a well or leaves it to be watered by the rain, whether he grows the commonest grain, or valuable crops worth Rs. 150 per acre. In all cases the assessment remains the same, and no tax whatever is laid, as in bygone times, upon a ryot's energy, capital, and prudence. The assessment is absolutely fixed and certain, and a ryot's payment is only modified by increase or diminution of holding, or, on wet land, by the growth of a second crop on single-crop land. To this there is one important exception, and that in the ryot's favour, viz., the grant of remissions, which are allowed in case of failure of water-supply to wet lands, and in dry lands in case of grave seasonal failure, such as has twice if not thrice occurred on large areas since the famine of 1877. A charge for Government water is of course made if it is used. As shown under "Economical condition," land is generally a valuable property, and the subject of free and constant transfer, which is almost as easy as that of Government paper. All fields are now classed, for revenue purposes only, as dry and wet; the former are those in which the crops depend solely on rainfall or upon the private enterprise of the ryot as in digging wells (gardens); the latter are those habitually irrigated by water from Government sources. The rates for the former are eight in number, and range from Rs. 2 to As. 4, with a district average of As. 14-11; those for the latter are nine in number, from Rs. 12 to Rs. 2½, with an average of Rs. 6-7-5. These rates are moderate for most dry land, and for the wet lands owing to the superior nature of much of the irrigation. There is no charge for a second or third crop on dry or garden lands. Alterations of holding are made at the jamabandi, either upon arrangements then settled or upon previous orders. Absolute relinquishments are no longer hampered by any condition except that of presentation before 1st July, so as to permit of another ryot cultivating; transfers to others depend solely on mutual agreement.

There is no charge for fruit trees of any sort standing on puttah land if they belong to the ryot; in many cases fruit trees belong to Government, as in the case of palmyra tops, and are leased to

Shánárs, while the land is sometimes held on puttah, sometimes unoccupied. In the latter case there is no difficulty; in the former the tree tax is paid to Government by the tree holder, and the land tax by the land holder; the land in these cases has always been taken up *after* the trees, often in order to get a claim to, or get possession of, the valuable trees by hampering the tree puttahdar. The tree tax is frequently very much above the land assessment when trees are numerous. Palmyras, which are the chief trees, pay 3 pies if young and used for leaves only, and As. 1-3 if mature. There is no interference with trees not belonging to Government.

The collections are made in six instalments from November to April, and under the circle system, 99 per cent. can be remitted punctually to the treasury (see "Revenue Department").

The "dittam" or preliminary engagement at the beginning of the cultivation season has been done away with. The "jamabandi" still remains, chiefly as a useful concentration of various inspection duties, though happily it has largely lost its original character of an elaborate investigation, for revenue purposes, of the circumstances of the ryots and of their excuses for failure of engagements, and is no longer a "scramble for remissions;" the jamabandi never was, as often supposed, a settlement of the *rates* of rent, but merely settled the amounts as determined by the area of holdings, and embraced, in old days, a considerable number of enquiries as to remissions, cowles, and departures from engagements; at present it is, in ordinary years, almost wholly concerned with transfers of fields and puttahs, a few alterations in area, a few claims for remission for failures of water, and a few cases of charge for the use of Government water, petty encroachments on perambokes (reserved public lands) entailing penal assessment, and so forth. Upon the settlement of these matters the accounts are made up, and such new puttahs as are required by the alterations are prepared and issued. But it is usual to make a thorough enquiry into the state of accounts, such as the cultivation, field, and ryot registers, and the collection accounts, etc. Their entries with the remarks of the inspectors and tahsildars, are tested and examined according to circumstances. Such are the ordinary duties of the Coimbatore jamabandi, which, as a rule, begins with January and ends in March or April, so as to allow of final adjustment of the demand before the last revenue instalment in April. Few ryots make complaints or petitions at jamabandi; it is usual to present them during the year whenever cause arises. The small number of ryots who present themselves during the several weeks of each taluk jamabandi is an evidence of the regularity of the system, the moderate number of complaints or grievances, and the freedom of the ryot from interference; most of the petitions refer to the disputed transfer of lands, the value of which is generally considerable.

All remissions except those for want of water and great seasonal stresses were done away with by the recent settlement, and pasture

remissions, and those granted to Brahmans and Mussulmans, are now non-existent.

Annual Revenue.—The following section shows the revenue from the beginning of the century; it is extracted in full from Mr. Clogston's Report, being too important to be abstracted.

"A table showing the revenue leviable in each year from 1800 to 1874, exclusive of all permanent remissions, and remissions made at the time of settlement, is appended to this paragraph, and opposite to each year are noted particulars of the state of the season or of any permanent reductions in assessment, made during the year, anything in fact which could account for an increase or decrease in the revenue of any year compared with that of the previous year, and a further statement is appended to the above, showing the average revenue of each quinquennial period in the same series of years.

Year.	Amount of settlement.	Remarks as to the state of season, prices, etc.
	Rs.	
1200	20,82,517	
1210	21,18,070	
1211	21,03,892	
1212	23,61,240	
1213	22,70,178	
1214	22,60,200	
1215	20,61,480	
1216	19,68,392	
1217	21,87,272	
1218	20,97,319	
1219	21,06,875	District rented out under a triennial villagewar lease.
1220	21,22,358	
1221	18,39,379	Part of district held under villagewar decennial lease.
1222	17,09,705	
1223	16,91,067	Season unfavourable; monsoon scanty.
1224	18,36,969	
1225	21,03,843	Monsoon scanty; decrease in dry cultivation.
1226	20,29,106	Rain very partial.
1227	21,14,158	Season particularly unfavourable; abundant but untimely and late rain, attended with injury to crops.
1228	21,77,384	Season of an indifferent character.
1229	22,17,000	
1230	21,85,735	Season unfavourable; failure of north-east monsoon resulted in a fall of revenue.
1231	21,92,920	
1232	22,55,682	Very favourable season; considerable increase in revenue.
1233	23,10,406	Season bad.
1234	23,49,691	Season was not uniformly favourable; monsoon failed.
1235	23,79,634	Untimely and late rain.
1236	23,89,391	Prices in these three falls said to have been depressed beyond example. Bad seasons.
1237	23,83,707	
1238	23,65,299	
1239	23,67,637	Bad season.
1240	23,65,055	Do.
1241	22,87,683	Moturpha is included in all previous years, but omitted in 1242 and succeeding years. Bad season.
1242	20,80,056	Bad season.
1243	20,28,510	Do.
1244	20,15,453	Do.
1245	20,84,913	An exceedingly favourable season.
1246	17,52,120	The most unfavourable season since the province came into the possession of the British Government.
1247	19,06,213	An average year. Collector in Jamsabdi Report speaks of district as having had 13 continuous bad seasons with only one exception, that of Fual 1245.

Year.	Amount of settlement.	Remarks as to the state of season, prices, etc.
	Rs.	
1248	19,27,842	Season generally unfavourable; but less so than in preceding years.
1249	19,07,213	
1250	20,26,327	
1251	21,18,939	Favourable year.
1252	21,60,303	Do. do.
1253	21,88,373	Do. do.
1254	22,20,090	Do. do. Rise in prices.
1255	22,29,122	A poor season; considerable rise in prices.
1256	21,57,877	Season singularly adverse; great rise in prices.
1257	23,33,332	Very favourable year; fall in prices.
1258	23,49,668	Season favourable; continued fall in prices.
1259	23,40,092	Season unfavourable; monsoon scanty.
1260	23,48,861	Do. not very favourable for dry lands.
1261	23,20,883	Do. far from favourable; both monsoons scanty.
1262	23,42,102	Do. of an ordinary character.
1263	23,33,606	Do. not favourable.
1264	21,29,627	Season not favourable; reduction of 12 or 15 per cent. on assessment of well lands.
1265	21,93,200	Do. do. reduction.
1266	22,34,828	Do. do. Rain very partial.
1267	22,40,481	The fifth dry and unfavourable season; prices very high.
1268	24,95,834	Revenue swollen by large sales of undated wood. Seasons not so unfavourable as the preceding.
1269	24,49,464	Season very fair.
1270	23,31,972	Season of an indifferent character. Remission of 61,790 rupees on dry lands.
1271	22,63,296	Season still more unfavourable than past year. A considerable sum expended in affording aid to the ryots. Rise of nearly 100 per cent. in dry grain prices.
1272	25,45,809	Season favourable.
1273	26,25,761	Do. do. Decrease in prices.
1274	24,24,956	Season not so favourable; considerable rise in prices. Remission of 2,51,864 rupees on assessment of well lands.
1275	24,74,892	Season unfavourable; considerable rise in prices. Very large increase in holdings.
1276	25,88,029	Season a very trying one, especially in Kollegal; great rise in prices. Increase of over a lakh in holdings.
1277	23,38,829	A very bad season, but prices fell. Increase of holdings, but large remissions, upwards of two lakhs in dry and wet.
1278	23,86,796	Season not favourable, but not very unpropitious; slight rise in prices. Increase in holdings. Considerable wet waste remission.
1279	26,39,540	Season favourable; decrease in prices. Increase in holdings.
1280	26,32,179	Do. do. do. do. Considerable remissions on wet waste.
1281	25,73,063	Fall in price. Relinquishment of lands assessed at Rs. 21,000. Considerable wet remissions. Palmyra rent carried to Jungle Conservancy Fund (Rs. 12,000).
1282	25,92,757	Rise in prices. Dry produce scanty. Decrease (Rs. 13,000) in holdings.
1283	26,07,877	
1284	26,21,980	
1285	25,75,317	Unfavourable season.
1286	23,33,532	{ The famine of 1877-78.
1287	25,66,901	
1288	26,73,767	
1289	24,52,276	Very bad season; dry remissions granted.
1290	26,54,249	
1291	24,93,947	Do. do.
1292	27,00,125	
1293	27,48,368	

* The following statement shows the average amount of settlement in each quinquennial period from Fasli 1209 to Fasli 1283 :—

Years.	Fasli.	Amount of settlement.
		RS.
1709-1800 to 1805-6	1209 to 1213	21,67,178
1806-7 to 1808-9	1214 to 1218	21,14,976
1809-10 to 1812-14	1219 to 1223	19,17,007
1814-15 to 1818-19	1224 to 1228	20,51,984
1819-20 to 1823-24	1229 to 1233	22,42,159
1824-25 to 1828-29	1234 to 1238	23,76,024
1829-30 to 1833-34	1239 to 1243	22,01,586
1834-35 to 1838-39	1244 to 1248	19,43,114
1839-40 to 1843-44	1249 to 1253	20,92,271
1844-45 to 1848-49	1254 to 1258	22,60,212
1849-50 to 1853-54	1259 to 1263	23,27,069
1854-55 to 1858-59	1264 to 1268	22,79,194
1859-60 to 1863-64	1269 to 1273	24,43,261
1864-65 to 1868-69	1274 to 1278	24,82,709
1869-70 to 1873-74	1279 to 1283	26,09,078

" A glance at the latter statement will show that, though during the last two decades the revenue has steadily progressed, yet that nevertheless, viewing it over the whole series of years, it presents very notable fluctuations. The series of years in which these are most remarkable are those between 1214 and 1232 and between 1235 and 1257. The first period commences with the year 1214, when the revenue stood at Rs. 22,60,209, and ends with the year 1232, when the revenue, which in the interim had for 17 years been below, had again reached the sum of 23 lakhs. Of the 17 years which this period comprises three were years when the district was rented under the triennial lease, and in two succeeding years a part of the district was held by renters under a lease intended to be decennial, but which was cancelled in the third year of its existence. The great and general decrease of the revenue during this period seems due to the exhaustion of the country caused by a too high demand during the triennial lease, and to the fraudulent manner in which that demand was distributed over the country, and partly also to the occurrence of bad seasons.

" The second period commences with the year 1240, when the revenue for the first time in eight years fell below 23 lakhs of rupees, and terminates with Fasli 1257, the only year of the series in which the revenue rose above that sum. The enormous fall in the land revenue from 23½ lakhs to 17½ lakhs between 1239 and 1246 appears from the reports of the Collectors to have been due simply and solely to a long succession of bad seasons. Year after year from 1235 (1825-26) to 1247 (1837-38), with one year's exception only, the district is said to have suffered from continuous bad seasons. The one season excepted, Fasli 1245 (1835-36), is declared to have been exceedingly favourable; but this gleam of sunshine was destined to be chequered in the very next year by the occurrence of a season the most unfavourable since the province came into the possession of the British Government. The revenue, as stated above, fell to 17,82,129 rupees, a lower revenue than had ever been realized in the district, save in the two years 1222 (1812-13) and 1223 (1813-14) when the triennial lease and the mismanagement of the Revenue authorities had succeeded in disorganizing

the revenue administration of the country. The recovery of the district from its misfortune was slow and very gradual. Ten years were to elapse after 1246 (1836-37) before the revenue was again to reach the sum of 23 lakhs from which in 1240 it had fallen.

"There is little further to call particular attention to in the statement, save to the rapidity with which the remissions of assessment on well lands, made in the year 1854 and 1864, were recouped by the increase of cultivation to which they led. The remission of Rs. 1,57,579 granted in 1854 was made up in 5 years; while the enormous reduction of assessment, amounting to Rs. 2,81,850 in 1864, reduced the revenue for only 5 years below the sum it stood at in 1863.

"The land revenue of the district for the last 13 years has shown no remarkable fluctuations. As prices fall, a considerable extent of poor land always goes out of cultivation, but on the whole the revenue is flourishing, and the records of the ten years—1269 (1859-60) to 1278 (1868-69)—show that on an average the area in occupation has grown by 54,047 acres a year."

Mr. Clogstoun's remarks apply to the years ending with Fasli 1283 (1874); the famine of 1877-78 occurred subsequently, and was followed by severe seasonal stress on two occasions, viz., Faslis 1289 and 1291. A good deal of poor land went out of cultivation as the result of the famine, but is now being again taken up.

CHAPTER VII.

MISCELLANEOUS REVENUE.

MOTURPHA.—History.—Thirty-five items omitted by Macleod, 1799.—Twenty-seven items continued by Ditto.—House and Shop Taxes.—Revenue derived.—Classes exempted. **SAYER.**—History and Description.—Revenue derived. **TOBACCO MONOPOLY.**—Origin.—Malabar Monopoly in 1807.—Extended to Coimbatore, 1811.—Method adopted.—Contract System from 1816.—Monopoly restored, 1827.—Method adopted.—Abuses.—Frauds.—Smuggling.—Branches of the Peace.—System found radically bad.—Abolished, 1852.—Receipts.

In addition to the ordinary land revenue, as described in Chapter V, there have from time to time been various imposts more or less heavy and grievous to be borne.

The history of these ancient imposts discloses so vivid a picture of the "good old days" to those who look behind the mere outward scenes and picture the results of the incessant perquisitions and requisitions amidst an ignorant, down-trodden people when the press and railways were non-existent, that a few pages may be usefully filled in describing them. The chief of these imposts were the moturpha, the sayer, and the tobacco monopoly. The salt tax does not seem to have been known, and stamps are also of British introduction; except in these matters the ancient regime appears to have tapped every possible fiscal source.

MOTURPHA.—This was levied from time immemorial under various denominations but on no fixed principles (Wroughton, 1845). Nominally the tax was levied from the professional and industrial classes excluding agriculturists, but many of the levies fell also upon the ryot. The old taxes were continued only for the first year or two of British administration, and were largely reformed and reduced by Major Macleod at the settlement of 1801. The following list shows the imposts dropped by Major Macleod as objectionable out of those found in force on the British assumption:—(1) On potters, (2) náma and vibhúti khancha, or tax on wearing the námam and sacred ash marks, (3) fees at weekly markets (shandies), (4) tax on dye stuffs, (5) on ghee, (6) on tobacco, (7) on heaps of grain, (8) on chunam, (9) on tali-yaries (watchmen), (10) on nirgantis (water distributors), (11) on pack-bullock keepers, (12) on dancing-girls, (13) on labor-maistries, (14) on women committing adultery, (15) rents on lotus leaves, (16) on gardens in backyards and plantations on river banks, (17) on cattle grazing in paddy fields, (18) on young palmyra nuts, (19) on tamarinds, (20) on balapam (potstone or soapstone), (21) on betel-nuts, (22) taxes on

the measurement of grain on the sharing system, (23) on offerings at Mahādeswara Malei, (24) levies for charity (*mahime*), (25) taxes on mamoties (hoes), (26) on village fees to village artisans, (27) on the sale of cattle, (28) on cattle-stalls, (29) on water-lifts, (30) on fishing, (31) on looms, and finally (32) contributions levied by *Amildars* (*Tahsildars*) from ryots when there was a deficiency in the amounts agreed by the former to be paid to Government. Mr. Wroughton also mentions two others as abolished by Macleod, viz., (33) contributions levied from ryots for the expenses of the *Tahsildar*, and (34) a payment of one fanam by each ryot with his first instalment of assessment; there was also (35) a special plough tax levied from ryots, but abolished in 1799.

The above were all legal and recognized levies but were considered objectionable by Major Macleod, who retained only the following:—Tax on (1) houses, (2) looms, (3) shops, (4) carpenters, (5) blacksmiths, (6) goldsmiths, (7) paper-makers, (8) dyers, (9) shoemakers, (10) barbers, (11) washermen, (12) oil-mills, (13) pack-bullocks, (14) salt-pans, (15) salt-manufacturers, (16) iron-smelters, (17) indigo-makers, (18) toddy-drawers and arrack-distillers, (19) boatmen, (20) carts, (21) beaten rice manufacturers, (22) basket-makers, (23) pedlars, (24) cattle and sheep, (25) blanket and carpet weavers, (26) gunny and mat makers, (27) stone masons. Some of the old taxes were re-imposed, while that on tobacco was for many years an important source of revenue; the loom tax also was on more than one occasion abolished and again imposed; with some variation the taxes retained by Macleod were continued till 1861.

The house tax was an important one, and in *fashi* 1214 fetched as much as Rs. 86,184; this apparently included the shop tax; as ryots were exempted from this tax, and the total district population was then only about six lakhs, the incidence per head of non-agriculturists must have been considerable. Many persons avoided the tax by obtaining nominal *puttahs*; e.g., the ryots' servants, whose huts were all taxed, obtained a piece of land from their employers on a nominal tenure and thus escaped taxation; others rented lands at rates far above their value to escape the inquisitions of the tax-gatherer. This tax varied in incidence in every place, and there were at least 16 recognized rates; similarly there were 16 for blacksmiths, 16 for goldsmiths, 18 for carpenters and so forth; and it is further recorded that taxation fell chiefly on the lower orders who could not sufficiently bribe the tax-gatherer, while the richer ones colluded with the village officers. Writing in 1855 Mr. E. B. Thomas declared the house tax to be a tax on marriage, since a man became liable when he moved into a house of his own; this puts the tax in a more favorable light in that it tended somewhat to delay marriage. The shop tax was very comprehensive, including an impost on shops, on market baskets, on leather grain bags, on bullock-packs, and on ghee. That on market baskets was the tax levied on poor women, who, to this day, may be seen by the road-side selling betel, tobacco and petty wares in baskets; they were

taxed at ten rates from Rs. 3-8-5 (a star pagoda) to As. 9-5; even the wife of a ryot did not escape if she traded as above. The iniquity, fraud, and oppression resulting from these petty, yet heavy and variously graded, taxes may be imagined, and a consideration of the oppressive nature of the *moturpha* led to its total abolition in 1861.

The principal taxes in 1855 realized the following sums:—House tax Rs. 11,923, loom tax 26,972, shop tax 10,715, tax on chueklers 4,592, on barbers 2,290, on washermen 3,365, on pack-bullocks 3,950, on salt-pans 2,271, on carts 2,437, on cattle 5,829, on carpenters 1,449, on goldsmiths 1,564.

The revenue derived from these various sources was small; in 1830 it was Rs. 93,953, and fell gradually to Rs. 69,157 in 1860-61.

The only classes exempted from taxation for houses or professions were the *Sughavásis* and actual ryots. *Sughavásis* were those who lived on their private means independently of land, and were entered in over 100 classes, the chief of which were of course Brahmans and Musalmans; it is said that even the Muhammadan rulers respected the immemorial privilege of the former to exemption from taxation, while Muhammadans naturally escaped lightly under a despotic Muhammadan dynasty in a Hindu country.

SAYER OR TRANSIT DUTIES.—These duties were levied previous to the assumption of the country by the British, and for a few years after it, on the transit of goods at innumerable *chaukies* (toll-houses) established throughout the country for the purpose. The rates of duty were various and arbitrary, the demands were unlimited and the places at which the duty was levied depended on the will of the renters and the native servants. The evils of this system were thus described by the Board of Revenue, in their letter to Government, of 20th October 1801. "We have been much impressed with the pernicious consequences resulting from the collection of the *sayer* and of its perversion from its original useful intention to the means of gratifying the rapacity of native tax-gatherers, who certainly collect twice as much as they account for to the State; this great engine of oppression, in its nature arbitrary and indefinite, subjects the merchants and ryots to continued vexation, whilst the reiterated and fraudulent imposition of it in every district, nay, in every village, renders it peculiarly adverse to trade and much more burthensome to the people than beneficial to the sovereign." The *sayer* was abolished by Regulation XII of 1803, and the frontier and town duties were substituted. The former was levied on all goods passing from or into foreign territories, and the latter on all articles of internal consumption. Both were payable once only, and on payment of the duty, a *rowanah* (pass) was granted which exempted them from all further payments, except when they entered certain populous towns where they were subjected to a fresh duty. The rate of duty was to be fixed, and the number of *chaukies*, and the places where there were to be established, determined by the Board of Revenue. On the introduction of the salt monopoly in 1805, grain was exempted from duty.

The town duties were soon found to work ill ;¹ it had been trusted that the imposition of a tax on goods for sale passing into or out of populous centres would attract trade "by the establishment of markets for the exchange and sale of merchandise," and it was disconcerting to find that not only were new markets not established, but old ones were injured by the removal of merchants to villages outside the previous trade centres, while goods in transit simply deviated from the ordinary track in order to avoid the toll-gates. The town duties were abolished in 1806 but re-imposed with restrictions in 1808 ; in 1822 a fresh Regulation provided that transit and import duty could only be levied on certain goods and at 5 per cent. *ad valorem* ; grain was charged 3 per cent. and that only on export into foreign territory. The right of collection was generally rented out to contractors over whom but very slight control was possible, and complaints were numerous, so that in 1844 these vexatious and harassing imposts were finally abolished. The amount realized to Government in Coimbatore was Rs. 1,97,648 in 1822, Rs. 2,10,822 in 1832, and Rs. 1,80,629 in 1842.

TOBACCO MONOPOLY.—The tobacco tax, which formed part of the original *moturpha*, was abolished in 1799, but was established as a separate source of income in 1807. In Malabar tobacco has immemorially been considered a necessary of life by ryots working throughout the day for months together on swampy, wet land, it being found in practice to be a preventive of fever and chills. But the climate not being suitable to the growth of tobacco a large import trade in the leaf was carried on with Coimbatore where it was grown with ease and in abundance ; until 1807 there were no restrictions on the trade, tobacco being however taxed in the field until 1799 and paying a transit duty under *sayer* till 1807. In that year the sale in Malabar was made a Government monopoly and in 1811 the monopoly was extended to Coimbatore both as regards cultivation and sale, the whole crop being taken up by the Collector at certain rates ; the required quantity was then despatched to Malabar, and the balance sold by Government agents to retailers for local consumption. This system led to frightful abuses, and the growth and sale in Coimbatore were freed in 1816, from which date till 1826, one or other Collector entered into contracts with merchants and others to supply a determined quantity of Coimbatore tobacco to the Government depôts in Malabar at fixed rates. This system in turn worked ill, and in 1827 a new system came into force under which the cultivation in Coimbatore of tobacco suited for the Malabar market was prohibited except under permission of the Government officers, who, having settled the quantity required for Malabar, made advances to selected cultivators. The tobacco thus grown was brought to depôts at Coimbatore, where it was paid for at rates varying according to its quality, the quality being determined by the Government officers, with reference to a *panchayat* in cases of dispute. The possible frauds practised

¹ Para. 602, General Report, 5th October 1806.

upon the ryot and Government by the subordinates may be imagined; *e.g.*, first-class tobacco might be paid for as third sort in spite of the ryot's protest; if he objected, he was liable to have it thrown on his hands; Government were of course debited with the price of first sort, the difference in value going to the officer; or *per contra*, third sort tobacco might be received as first sort, the ryot and the officer sharing the profit. The variety of possible frauds from the time of selecting the cultivators and making advances, to the time of despatching the tobacco to Malabar, was infinite. But evils, equally great and more obvious, led to the abolition of the monopoly; the price at which tobacco was sold in Malabar to the licensed vendors by the Tahsildars, who were the Government agents, was Rs. 202 per candy of lb. 500, or lb. 2½ per rupee; but as excellent tobacco can be sold at a profit (even in these days) at one anna per pound, the monopoly price was about 700 per cent. advance upon its actual value. As the frontiers of the two districts adjoin, and as a head load was worth Rs. 20 at the monopoly price, the temptation to smuggle was irresistible, especially as the monopoly almost amounted to a prohibition to the poorer classes of this, to them, necessary of life. The result was a rapid approach to general demoralization; tobacco-smugglers, chiefly Moplahs, went about in armed gangs, even attacking and plundering the Government depôts when not engaged in secret contraband traffic; on the other hand, the frauds and oppressions practised by the preventive force when they were not conniving at the contraband trade, their frequent domiciliary visitations with their attendant exactions, led to many collisions between themselves and the people, the general result being in the highest degree injurious to peace and good order. Government was at last obliged to put down the violence of the smugglers by military force and permanently to locate an additional force in Malabar, and in 1845 they finally called on the Collectors to report, through the Board, on the practicability of a beneficial modification of the monopoly, or in default, to suggest some substitute for this source of revenue, such as a tax upon the mercantile classes who had just (1844) been relieved of the inland customs duties (*sayer*). The Board (Proceedings, dated 22nd June 1848) reported that no modification would avail to free the monopoly from the evils attendant on it, and advised Government that between its entire "surrender and the retention of the present system with all its evils, there is no practicable middle course." In their order of 1852, Government accepted the Board's view, and the monopoly was finally abolished on December 31st, 1852.

The revenue derived from the monopoly in Coimbatore rose from Rs. 89,944 in 1829 to Rs. 2,37,797 in 1851.

OTHER BRANCHES OF REVENUE.—For *Abkārī*, Local Funds, &c., see chapter on Departments.

CHAPTER VIII.

AGRICULTURE.

GENERAL REMARKS.—Soils.—Rainfall.—Forests. AGRICULTURAL PRACTICE.—Fencing.—
 Implements.—Fallowing.—Ploughing.—Manures.—Farm-yard Manure.—Oil Cakes.—
 Village Sweepings.—Green Manures.—Mineral ditto.—Other Manures.—Rotation of
 Crops.—Seed Selection.—Quantities of Seed.—Sowing.—Transplanting.—Interplough-
 ing.—Reaping.—Threshing.—Pasture.—Fodder Crops.—Irrigation.—Drainage.—
 Cultivation Seasons.—Outturn.—Cost of Cultivation.—Diseases. CROPS.—Paddy.—
 Chulam.—Kamab.—Ragi.—Tenei.—Varagu.—Samsi.—Wheat.—Pulses.—Gummin.—
 Fenugreek.—Ground-nut.—Gingely.—Coriander.—Caster.—Tobacco.—Chillien.—Tur-
 meric.—Onions.—Garlic.—Sweet Potatoes.—Plantains.—Betel.—Cotton.—Sugarcane.—
 —Pellamaji.—Sunn Hemp. ANIMICULTURE.—Proverbs.—Cocconuts.—Palmyra.—
 Pomegranate.—Citrus Family.—Grapes.—Tamarinds, &c. STOCK.—Breeds.—
 Description.—Sheep and Goats.—Diseases.

General Remarks.—The agriculture of this district presents few extra-ordinary features, but is interesting in a high degree for several reasons, *e.g.*, as showing miserable tillage on poor upland soils by poor ryots, side by side with excellent culture on the better lands by a better class of ryots, the empirical skill of men unlearned save in the experience of centuries, the difference between crops or soil treated with manure and water, and similar crops and soil cultivated with deficient manure and watered only by rain, and the advance that may yet be made in the cultivation of even the best tilled lands, *viz.*, the wet and garden. As the staple industry and the backbone of the revenue,¹ it is a subject of the highest interest and importance, while the esteem in which it is held is marked by the saying : " Which is better, ryotship or royalty ? "

It may be roundly stated that in Coimbatore agriculture is fairly known as an empirical art, but as a science not at all ; hence the absence of those improvements in the art which science can indicate when the increase of population involves either a corresponding advance in agriculture, an external supply, or periodical famine. Defects in the art are largely the result of unfavorable climate and soil, and of want of capital rather than of practical knowledge ; the want of capital is however to some extent the result of defects in mental qualities, in such matters as forethought, self-restraint, the knowledge or energy to utilize waste whether of time or space.

The conditions of climate and soil, prices, and the varied status of the ryots, must be especially considered in revising the state of this

¹ Cf. the proverb " The ryot's goad is the ruler's sceptre, " or again " From tillage wealth."

industry. The district rainfall is one of the lowest in the Presidency, the average being but 24 inches, while several of the chief taluks have but from 18 to 21 inches, and this amount falls on but few days in the year. The atmosphere is characterised by extreme dryness,¹ the soil by aridity and stoniness, so that under a tropical sun all rains except the heavier falls disappear within at most a few hours, and are of little or no practical benefit. These heavier falls are comparatively rare except in October and November, and much of the above scanty rain falls in distant and useless showers. Hence a rainfall of 18 to 24 inches cannot be compared either with a not much greater fall in the humid and temperate climate and on the retentive soils of England, or with other South Indian districts where the fall may vary from 35 to 60 inches, that of Madras being 52 inches. Hence also, except under river channels and wells, it is almost if not quite impossible to carry on processes or produce results which would satisfy an English agriculturist. Nor is it likely that the poorer uplands will ever produce good crops; these are the newly taken up lands, and are too poor to return profits on any great expenditure of capital, such as would be required to fit them for good farming; nor does it appear that, at present prices, the cheap grains which these soils grow can give a margin of profit sufficient to find funds for improvements which cost money: a great rise of prices might do so, as cultivation expenses at present are paid in kind, and other expenses chiefly in money. The status of the land-holders is very varied; while many ryots spend a great deal of capital and labour on their fields, even of the poorer sorts, these lands are usually held by the poorest class of labourer-ryots, and present the art in its lowest type, viz., the most meagre and slovenly cultivation of the most wretched lands by pauper cultivators. It is therefore necessary to allow for such cases in reviewing the state of agricultural knowledge in Coimbatore; it is a mistake to speak of the Coimbatore ryot as though there were a dead level in knowledge, capacity, capital, and industry. It is when reviewing the state of the cultivators from an economical standpoint that these lower strata must be specially taken into account.

Much of the poorest cultivation is the result of the liberality or laxity of the revenue system, which permits any pauper to scramble for land and a living from it, and which allows the ryot to take up any amount of land, whether he can do justice to the area or not, or whether he will cultivate it or merely exhaust it. It is to this that is due the apparent decadence of wealth as gauged by the tests, fallacious also in other ways, of coercive process and remissions, which have increased *pari passu* with the development of pauper holdings. The

¹ The humidity entered in the Appendix is that for Coimbatore town only, and is consequently affected by the proximity of the Palghat gap, through which from June to August vast masses of vapour pass, considerably increasing the humidity in that neighbourhood, while the bulk of the district is unaffected.

result of this freedom in land-occupation is that men in the position of labourers, such as Chucklers and Shánárs, as well as other castes, absolutely without capital, ploughing even with borrowed bullocks, obtain fields rejected by the regular ryots, in the hope of a good year and some small gain, and with the full knowledge that in case of failure they will be scatheless, as the worst that can happen is the sale of the land. Hence a low class of cultivation; land barely scratched late in the season, a hurried crop of kambu, cholam or gram, entire absence of real tillage, weeding, manuring, and so forth.

Another source of poor cultivation is the competition for land; in most taluks the bulk of the dry land has a sale value and is eagerly taken up, not so much because it is wanted, but to secure it against other ryots or the pauper cultivators above alluded to. Hence the holder has to pay an amount of land revenue in excess of his means, and to counteract this he endeavours to cultivate as large an area as possible without the means of doing it justice; as the proverb says "Even a poor field will produce something." It is not an uncommon remark by ryots regarding an ill-weeded or neglected field that the owner has too much land, and that the crop has been ruined by want of attention.

The complaint of undue extension has been made on several occasions. In 1830 Mr. J. Thomas stated that the increase in holdings was due "not to a real increase of capital and stock, but to the premature extension of cultivation; instead of good soils being thoroughly cultivated or other industries developed, capital has been attracted to extension of cultivation; hence a glut in the grain market, and labourers have become ryots without capital and energy." At this time the ryots held 1,947,462 acres, of which 1,304,796 were on full rent, 81,694 on cowle or partial remission, 560,972 on grass (one-fourth) assessment. Then followed a disastrous series of years ending in 1837, which brought holdings down to 1,451,977 acres, of which only 1,082,109 were on full assessment; thence they rose till 1853, when the area was 1,627,448 acres, of which 1,428,758 were on full assessment. In 1856 Mr. E. B. Thomas was concerned about the number of pauper ryots "without capital or spirit to invest or improve, and who would more naturally fall into the class of labourers instead of small unthrifty tenants;" this class had been similarly mentioned in 1822 and 1827 by Mr. J. Sullivan. Extension, however, under the sudden doubling of prices subsequent to 1852, and the removal of the garden assessment in whole or in part, became much more rapid, so that in 1875 the area under puttah, all paying full assessment, was 2,307,035 acres. In this respect at least the State is not open to the charge of stringency, for it does not refuse any class of tenant even on the tenant's own terms of cultivation.

This earth-hunger, leading to expansion of area instead of development, is a serious misfortune. There can be no doubt but that one-half of the dry area, if properly cultivated, would give over a series of

years and with far greater certainty a yield much larger than the present total yield. When a pothi (10 bushels) of grain, or 30 lb. of clean cotton, is a good outturn per acre of dry land, it is evident that there is much to be done in developing not so much a better agricultural knowledge as a better practice. Strangely enough their own proverb contrasts with their present practice: "Plough deep rather than widely" was the outcome of experience; or again "High lands or a showy wife will ruin a man."

The nature of the rainfall must be remembered in this connection; the chief cereals are sown in the south-west monsoon, when the rain is invariably a mere series of showers, of which none below three-fourths of an inch is of any use; these falls seldom exceed 2 inches and are at comparatively distant intervals, sometimes only one in a month. Hence the opportunities of cultivation are very limited in number and duration, and must be seized and used on the instant. As soon, then, as rain falls, the ryot's object is to cultivate the widest possible area; his best lands get his first attention, but are to some extent hurried over to permit of ploughing the poorer or more distant lands, or of hiring his cattle to others. These poor lands are consequently ploughed and sown when the effect of the particular fall has almost passed away; hence a frequent failure of the seed to sprout, or weak and young seedlings incapable of standing a possible drought of several weeks before the next rain. Common sense as well as actual examples show that if instead of trying to cultivate a wide area, the ryot's whole attention was turned to a few acres to which the whole of his manure and capital had been devoted, not only would those few be in good condition, but they would obtain the whole advantage of early sowing, and the inestimable advantage of being in a condition to resist a moderate drought. In former years ryots were unduly saddled with poor lands even against their will; now they themselves grasp at more than they can till. These remarks apply to the cultivation of ordinary dry lands only, which form the bulk of the district area.

Another chief cause of poor cultivation is poverty. This does not apply generally; there is no lack of technical knowledge and of excellent practice by substantial and average ryots, and in reviewing the state of the art it is the practice of such ryots that must be considered. But, as shown above, it is to the undue extension of area and to the admission of mere paupers to the rank of ryots that the poorest class of cultivation is due. Another and general cause that may be mentioned is the absence of a basis of scientific knowledge to the art. The experience of centuries has taught the ryot an art fairly correct in its facts, but practice being limited by experience, and not based on a knowledge of principles, the increase of population has left the development of agriculture behind. As elsewhere stated, it must always be the case that each successive increment of produce is obtained with progressively greater difficulty, especially in Coimbatore, where the vast areas of land

unoccupied in 1800 were nearly all of poor description, and many myriads of acres would not then repay cultivation, and but barely even at this day; hence population, which is everywhere apt to outstrip agriculture, is still more so in Coimbatore. Again, since all that was to be found out by rule of thumb was long ago known, the art has been comparatively stationary except in so far as added wealth has extended long known improvements, while on the other hand population has progressed with rapidity. If, however, to the vast knowledge of practical details possessed by the ryot, were added the knowledge of the principles of his art, his industry would soon develop a better practice and extract a greater yield from the unwilling soil. He has seized on the most obvious remedy, that of well-irrigation, or the use of the subterranean stores of water; he is fully aware of the value of manure in almost every shape, including that of vegetable organic matter, but not being aware of the *rationale* of his processes, he does not develop his practice or correct his failings; above all, not knowing that he removes from the soil its most valuable constituents, he has not learned to restore to it all he takes from it, and the most natural and valuable of manures is a rejected nuisance, the despair of sanitarians, yet the *desiderandum* of agriculturists. It is probable that the chief lesson to be taught by science to the Coimbatore ryot is the use of human excreta, as in Japan and on the European continent, while a better knowledge of the action of humus would probably result in the development of common tree growing and of green manuring both for the physical and chemical development of the uplands, now so deficient in organic matter. The improvement of pastures demands attention, but considering the hostility of the soil, the adverse climatic conditions, and the absolute necessity for, and profit of, growing grain on every acre that water can reach, whether from channel, tank, or well, the solution of this and the fodder question appears rather to depend on successful efforts both to start fodder reserves and to induce the ryot to form them for himself. The drainage of paddy lands and the regulation of the water-supply by mechanical sluices, both of which are engineering questions, will probably do as much for wet agriculture and the ryot as any other improvement. The development of tree growing is an improvement which is not dependent on science, though science may indicate its importance. A few more mechanical improvements based on higher knowledge are also desirable, such as the plough for economical and rapid working rather than for deep ploughing, seed drills and so forth, but the present condition of the ryot leaves little room for machinery.

Another cause of poor practice is the want of sufficient channels or agencies between the external market for high-class produce and the district. It is but recently that village has been connected with village, taluk with taluk, and district with district, and the mofussil has not yet been fully exploited by the merchant. It is noteworthy that with the rapid development of roads and the introduction of the railway, Coim-

bature prices rose with rapidity, pointing to a previous yield in excess of requirements and to an external demand which developed upon the completion of communications. Cheap railway rates and exploitation by merchants must be contemporaneous with scientific teaching; even now almost anything could be grown to the order of commercial agents, whether fibres for cordage, paper or textile fabrics, cotton, sugar, cereals, pulses, tobacco, or oil seeds. Indirectly the merchant and mill-owner would develop agriculture by eliminating its poorest practitioners, and by the effect of a better demand in a market less glutted with common food produce. Nevertheless, while the success of one firm in inducing the growth of Bourbon cotton exemplifies these remarks, the absence of improvement, or perhaps the deterioration in the quantity and quality grown, shows that without sound teaching, both technically and generally, even a trade demand brings but a partial success.

Another cause is the want of industries, either to render the produce marketable or to work up the produce into manufactured goods. An immense trade might be done in this district in properly expressed oils, whether gingelly, castor, ground-nut or cotton, in the concomitant manufacture of soap, in sugar, in tobacco, in fibres, in paper half-stuff, in cotton spinning, and so forth. Such industries would yield a double benefit.

Another cause is non-devotion of capital, and the want of labourers or tenants who will employ capital. The want of capital among poor labourer-ryots has been adverted to above, but a chief cause why valuable products are not grown, especially on wet lands, is the non-devotion of capital by reason of defective mental and social habits. When the cultivator is a Vellalan, a good deal of his capital does go to the land, as in digging a well, getting more cattle, etc.; but when it is owned by Brahmans and miscellaneous castes, land is apt to be looked upon as an object of mortgage, of which the product is spent in marriages and such like. Much of the most valuable wet land is owned by Brahmans and is often mortgaged to its full value; the capital thus raised having been spent, they cannot employ any on the land, which is consequently handed over to poor tenants such as Pallars, who cannot advance money for an expensive and deferred crop such as sugar-cane and plantains, but want a quick return in mere food grains, which also suits their equally poor landlord. It is certain that though sugar-cane and plantains will grow splendidly on tens of thousands of acres of wet lands, it is the absolute inability of the cultivators to advance a decent outlay for a year that prevents the growing of crops worth Rs. 150 per acre, and that, too, on land which has risen in sale-value from Rs. 50 to Rs. 500 within thirty years. Instead of this, Rs. 20 are spent to raise a crop worth Rs. 40. The proverb says, "A Brahman's field gets little supervision, and an Andi's (Sudra priest or beggar) not even that." Had the proverb been of recent date, the non-devotion of capital might well have been added. Assuming that the Kalingariyan lands (8,900

acres) now average in value Rs. 300 per acre, which is below the mark and that thirty years ago they were worth Rs. 50, which was then full value, there is here a clear unearned increment of 20 lakhs of rupees, which has accrued by the mere rise in the prices of grain. Has this money done any good? There is no evidence of any better cultivation; there is less sugar-cane and fewer plantains than at that time. A few ryots have set up as merchants, but the majority at least of the Brahman ryots are no better off, and many are sunk in debt up to the full value of their lands. At the best there is no more capital and labour put into the land than there was; paddy is grown as paddy was grown fifty years ago, while the yield is certainly no better, since, when grain prices were one-half, the ryot could still cultivate at a profit, and pay an equal or even higher assessment.

Moreover, rich merchants buy good land simply as an investment, and then hand it over to poor tenants for cultivation without themselves investing a rupee in the actual tillage. To a merchant the land and its cultivation are not objects of devotion, as to the Vellālan; Tamulicé, "செய்யுதும் பறிஞ்சுதும் இன்பம்படை," meaning that the merchant will always neglect agriculture for trade. This is a serious hindrance to good agriculture, which thus becomes on the best lands a mere low-class cultivation of cheap and easily grown crops. It is not often that a merchant will devote capital to turning a dry field into a garden or to similar developments; he prefers to buy at a high price lands already improved. As lands thus bought or frequently obtained from ryots whose necessity forces them to mortgage or sell, the best wet lands are passing into the hands of absentee holders, while the sale price has been already spent probably on foolish extravagance. This power of mortgaging land which by the mere progress of wealth has become valuable, tends to ruin the ryot by encouraging unthrift whenever a temptation to indulgence presents itself.

Further, the principle of minute sub-division added to absenteeism, and the neglect of well-to-do land-owners to live on and for their farms, is a great drawback to progress. There are no rich landlords or squires or gentlemen-farmers to spend money on experiments such as have raised British agriculture to its present state; the ryot, though moderately well to do, cannot afford expensive experiments even if his conservatism allowed him to do so, and the sub-division principle breaks up even well-to-do families. When, as in the case of one or two cattle breeders, money has been freely spent in new departures, the returns have been excellent. Although the principle of co-operation is well known, it has not yet led to the formation of agricultural societies, or even partnerships, for the introduction of improvements, but each ryot goes his own old way and looks to the Government for anything further.

The next cause that requires mention is the want of general education. This is too obvious to require remark, further than that much may be expected to result from educating a population of which in 1881

only 5·4 per cent., including Brahmans, merchants, &c., could read or write even in the lowest degree, while but a much smaller percentage had reached the lowest standard of a primary school. But to this cause must be added the absence of agricultural education; in most other countries held by a peasant proprietary, special schools where theoretical and practical agriculture are taught to the peasantry are considered essential, even though the general intelligence and standard of education may be higher than in Coimbatore; even the Normal schools occasionally, as in Switzerland, have an agricultural branch in which all school teachers are practically trained, so as to fit them for sympathising with and aiding the peasants among whom they will live, and from whom they spring. These schools appear to be kept up by local communal subscriptions or by local taxation, and must be considered as immense aids to the local peasantry. No such advantages are available for the Coimbatore ryot.

These are the defects or causes of deficiency in Coimbatore farming. On the other hand, the art is both excellently known and practised by the average and substantial ryots. Except on the black soil and richer loams, or in localities favoured by rain, such as Kollegal and Pollachi, upland cultivation is comparatively subsidiary to that on wet and garden lands; it is to these that the ryot looks for sure and certain crops, and it is to these therefore that get his most devoted attention, while common low-class dry lands, though widely cultivated, are seldom expected to give more than a precarious yield. To ascertain therefore what is really known of agriculture the ryot's practice on these better lands must be examined, and it is doubtful if he will much suffer by comparison with any farmer anywhere. Rude cultivation must not be set down to a low state of the art or of its knowledge, but to other causes as detailed above, especially hostility of season, soil, and empty purses; if these difficulties, which together are not to be overcome by the best agricultural system, are absent, as in the better lands and in gardens, his practice will be found to be correspondingly good; a full purse will, in the Coimbatore Vellalar's hands, conquer season and soil. His wet land farming is excellent; he uses water extravagantly, but this, though a public misfortune, is a personal benefit, since the individual field is more heavily manured by the increased deposit of silt; the bad state of his subsoil is not due to ignorance of drainage and its importance, for he has a special name for subsoil water and takes infinite pains to get rid of it in crops like turmeric, plantains and sugar-cane; it is due to the impossibility of keeping drained tiny plots lying amidst vast areas of almost level wet land, and the impossibility of combination amongst hundreds of ryots to carry out a comprehensive scheme of drainage; in his gardens he grows paddy on an admirably porous soil, with higher yields in quality and quantity than on wet land, showing that he is fully aware of the best methods of culture; he corrects the clay of his upper soils by masses of vegetable matter, and by town sweepings, and

admixture of lighter soils in the rare cases where a slight raising of level is immaterial; his wet crops are most diligently weeded, and if he waits till his crops are dead ripe, it does not appear from inspection that he loses appreciably either in grain or fodder, while there is a considerable saving in threshing. The quantity of seed used by him in paddy crops seems excessive and inexplicable, but he probably has some reason for it, seeing that in other crops he uses only from 6 to 14 lb. per acre. In garden lands the ryot is 'passed master of his art, and, unless it be in his water-lift,² it is doubtful if there is anything to teach him. There cannot be much to teach a man who, by his own statements, can produce in one crop from 30 to 80 bushels of grain per acre, according to circumstances, such as the kind of crop, the season, and his means. This is no exaggeration; 3 pothis is a fairly good crop of cholam, ragi or kamba, and 4 a maximum; in paddy a Karúr ryot will get in his garden from 4 to 8 pothis, the latter being a maximum and 6 a good crop. The pothi is 192 local measures, averaging a capacity of 144 rupees weight of rice, about 2½ lb. of paddy, and a little over 3 lb. of ragi. Hence the maximum paddy outturn is 4,300 lb. per acre, which, at 54 lb. the bushel, equals 80 bushels. Inspection of his cultivation from fallow to reaping will show that all the minutiae of good cultivation are elaborately attended to; his cattle frequently never leave the garden they till, but are fed with cholam fodder, cotton seed, grass, &c., on the spot; the sheep are penned for months on the ground; the soil is thoroughly ploughed, with additional cattle manure if needed, and, according to crop and soil, with masses of village sweepings up to 25 cart-loads per acre, which, in addition to the cattle droppings, refuse of fodder, and stubble, provide ample humus; ashes and other soils are added according to crop and soil; seed is sown most sparingly; the crops diligently weeded and watered according to need. This is no fancy picture, but may be daily seen in operation in the better class of gardens. As elsewhere stated, the status of the ryot is the most important factor in the practice of the art.

Dry land cultivation is not so elaborate, but the higher classes of lands are thoroughly well tilled, and even in common lands manure and village sweepings are largely applied if available, especially when cotton is to be grown. Ryots, however, who own uplands only, are usually poor, and can afford to do little; if they own gardens and wet lands, these get their best attention. Hence a generally lower class of cultivation on uplands.

Details of practice and crops will now be given, it being premised that seasons, soils, ryots, and practices vary largely over so wide an area as 2,300,000 acres of holding. Statements are based chiefly on the enquiries and observation of several years, principally in the sub-division, but also in the taluk of Coimbatore and the Head Assistant's division.

² See Appendix as to water-lifts.

The reader is also referred to the reports of Dr. Buchannan (1800), whose personal observations are most valuable, but whose statistics are marred by the inaccuracy of his informants, of Mr. Robertson, Agricultural Reporter to Government (1876), to Mr. (Collector) Wedderburn's remarks upon the last-named report (1878), and Mr. H. F. Clogstoun's Settlement Report of 1875. Farmers are not unaccustomed to grumble, and their statements, unless elicited in friendly and general conversations, or unless the informants are of position, are apt to be peculiarly pessimistic; especially so is this the case when, as in Coimbatore, it is unlucky to praise the condition, etc., of crops, cattle, children, etc.; and still more so when, in addition to adverse soils and seasons, the operations and enquiries of a Settlement Department of unknown intentions are in full swing: hence, as Mr. Wedderburn states, a liberal allowance must be made for ryots' statements in 1875 and 1876 in reply to official enquiries.¹

Soils.—The arable part of the district is an open, gently undulating plain sloping towards the east; its soils are chiefly red sand and gravel, with a moderate area of red loam and black clay; these soils, except the black, are but thin, and while formed chiefly from the disintegration of gneissose rocks, are interpenetrated, or sometimes covered, by an overflow of lime; the uplands and slopes are stony² and gravelly, and thinly clad with poor half-disintegrated soil, the bottoms alone being deeper and richer by the wash from the uplands. The sub-soil is either kankar, hard gravel, decomposing rock (morumbu), or mere rock; there is no sub-soil proper, the whole productive stratum being a surface soil, shallow in the extreme on the uplands, and of moderate depth in the bottoms. (For full details see "Geology" *sub* see. "Soils.")

Rainfall.—Except in West Pollachi and Kollegal the rainfall is scanty, averaging 24 inches per annum, which falls in showers during the hot weather and in the south-west monsoon, and in heavier rains during the north-east monsoon; it is unusual to get any useful rain between the end of December³ and the end of March, from which time to the end of September the rainfall averages 13 inches. The cultivation seasons are usually divided into kar and parvam, the former being the earlier and the latter the later crops. But there are really three

¹ In this chapter agricultural practice, crops and stock will alone be described; tenures, rents, prices, the incidence of the assessment and the condition of the ryots will be found under the economical section, the kinds and systems of irrigation in the taluk chapters and in a special section, and the nature of the holdings in the chapter on revenue.

² To judge by their proverb, ryots do not object to stony lands if there is otherwise good soil, e.g. : கட்டிவாநதவன் கல்லாகக்காட்டை உழுதேவண்டும், "A man who is no judge of land should plough a stony field." But this may bear another meaning.

³ Of the saying, கார்த்திகைக்குப்பித்தி மழையிலலை கர்வனுக்குப்பித்தி கௌடயிலலை "No (useful) rain after Kartikai (15th December), and no clarity (worth speaking of) after Karnan."

distinct seasons:—(1) that of the April and May rains (kar), especially in Karúr, North Dhárápúram and Polláchi, before the advent of the south-west monsoon at the end of May; (2) the south-west monsoon, with which the staple cereals of the district are cultivated from June to August according to locality and rainfall; (3) the north-east monsoon, in which the parvam crops on all lands, wet, garden and dry, are cultivated.

Roundly speaking, it may be said that on dry lands the cereals ought to have decent rain, say an inch, at least twice a month, and the pulses and cottons at least once a month during the period of their growth, but that the dews are sufficient for cholam and gram in the cold weather, to give at least some crop if there has been proper rain for about six weeks after sowing; cotton also needs very little rain from December to March. The chief rainfall table (see Appendix) has therefore been drawn up by fortnights, and the number of falls of rain and the quantity have been stated; this, though not perfect, since the interval between the falls and the amount of each fall are not stated, is all that space would permit. The section on rainfall, with its appendices, further shows that the country is liable to long droughts with frequent cycles of continuous deficiency in rain, and that there is complete uncertainty every year as to the probable quantity and seasons of rainfall. The general characteristic of the district is a deficiency of rain; as shown by the Appendix it is one of the driest in the Presidency, while Mr. Collector Grant, writing in 1865, showed from an examination of the jamabandi reports, that in 62 years there had been 9 bad, 40 unfavourable, 11 favourable, and 2 bumper. It must be remembered that several of the chief taluks get only 18 to 21 inches, that this fall is distributed over only about 30 days in the year, and that there are not more than 6 or 8 falls useful for agricultural purposes, the remainder being either out of season or too trifling to affect the crop or soil under a tropical sun which dries up half an inch of rain before it has time to sink beyond reach into a stony soil. As a rule there is no fear in this district of crops being spoiled by unduly heavy rain; occasionally very young or flowering kambu is harmed by an unusually heavy north-east monsoon, but this is rare; drought is the danger to be considered, and while the south-west monsoon showers of July to September are all important for the dry land cereals, the north-east monsoon is equally important to fill the wells and mature the pulses and cotton.

Forests, &c.—Except on the borders of five taluks there are no hills or forests for fuel or grazing, so that only a moderate proportion of the ryots share in these advantages, while, owing to the pressure of population and desire for land, the village common lands have greatly decreased.

Agricultural Practice.—Fencing.—A marked feature of much of the district is the fencing, which is almost peculiar to the Kongu country; it is found over most of Coimbatore, in parts of Salem, especially near

Coimbatore, and in the Palni taluk of Madura. The habit of breeding large herds of cattle, the high winds, and the absence of any general custom of exchanging lands, probably induced this practice. From time immemorial large fields have been well fenced either with mulu-kiluvai (*Balsamodendron Berryi*), something like a strong English bull-fincher, or with various species of euphorbia and cactus, including prickly-pear. The practice of fencing is very valuable, cattle trespass being comparatively rare, cattle and crops protected, boundaries respected, large quantities of fuel supplied, and protection given to growing trees. Its value is noted in the proverb அடைத்த வன் காட்டைப்பார் மேய்ச்சுவன் மாட்டைப்பார், or "Note the field that is hedged and the cattle that are pastured."¹

Implements.—The implements of husbandry are of the rudest and simplest kind. The common plough or rather cultivator, which stirs but does not turn over the earth, and requires numerous ploughings to thoroughly move the whole soil, is the only one found, and it is with difficulty and only in loose soils that above six inches can be ploughed. The hoe for weeding, the crowbar for occasionally breaking up deep black soils, the sickle or bill-hook (aravál) for reaping and pruning hedges, and the beam (parambu) for smoothing wet lands, are the sole implements in use. The drill of Mysore and the harrow are altogether unknown; in the words of Buchanan, "the implements of husbandry are here more miserable and fewer in number than those used above the gháts. The farmers of Chera have no carts, no drill plough, no rake, no hoe drawn by oxen, nor do they use even a bunch of thorns to supply the want of a harrow."

At the present day, however, carts are very numerous and are much used to cart manure, soil, and produce, and for hire in the off seasons.

Fallowing.—Lands are regularly fallowed, the field being either left simply untilled, and a scanty herbage grazed over by stock, or ploughed, usually with the rains of April and May, and left for a season uncropped. This latter practice (puluthi) is habitual on all soils. About one-seventh of the land under occupation is left waste each year, many fields however being cultivated year after year, often with the same crop, and with little or no manure. The result of fallowing is well understood, and it is a matter of experience that lands should be ploughed and left fallow if only for a few months before sowing; every advantage is taken of the April and May rains to plough up the land so as to ripen it for cultivation in one of the following monsoons. Experience has crystallized into the proverb கார்வை கடவுள் காள் உருவாகுதலை, "Speed the kár (April) plough;" again, ரீர் நடத்தால் ரீபர் நடக்கும், or "Respect breeds when the plough

¹ There is, however, another form of this proverb, viz., அடைத்தவன் அடைத்த பூர் விடும்சுவன் மாட்டைப்பார், or "Compare the cattle that are penned with the cattle that are (scarcely) grazed;" the condition of penned cattle is far superior.

speeds." The practice is not so fully developed as it would be if the rainfall permitted ploughing at seasons other than those of actual cultivation, which, except in April and May, is rarely the case.

On the black-soils it is found by experience that lands ploughed with the early rains and left fallow for a few months, produce far more luxuriant crops of cotton, alternated with cholam, than if regularly cropped in the same alternation without an intervening fallow.

Apparently more advantage might be taken of the November rains for ploughing waste lands, as cultivation is mostly over by the end of October or beginning of November, as soon as the cholam and later gram have been sown.

Ploughing.—The action of the native plough is well known and requires that the land should be crossed and recrossed to be thoroughly broken up. Its two chief faults are its great draught, due to clumsy form and construction, and the necessity for repeated ploughings to obtain a proper tilth. In most parts it would be useless to bring up sub-soil, which is usually poor and but partially decomposed, but a light turn-over plough would effect a great saving in time and labour and thus turn the rains to better advantage, while a good cultivator to stir the soil more easily and deeply and thus enable the rain to sink more rapidly and completely instead of running off as soon as the shallow tilth is saturated, would be an additional benefit. At present in a heavy north-east monsoon it is not unusual to see the shallow surface stratum, even of uplands, super-saturated and water-logged, while in a sudden heavy rain the rush of surface streams is a very pitiful sight in a district where every drop is wanted for local springs and wells.

In the deeper soils of the gardens and black lands, the larger ploughs, such as the Swedish model lately exhibited, would be specially useful, and a still heavier one for turning up the sub-soil in black cotton tracts. It will be hereafter seen that before planting the better class of crops, such as sugar-cane, repeated ploughings, even to the number of eight, are given; no doubt a good tilth is thus obtained, but by great labour. In such cases, European ploughs would be a source of saving and profit, and with the ryots' recognition of the value of ploughing, a plough suited to the district would probably meet a ready sale. Near Coimbatore the black soil is frequently broken up in April and May by crowbars; this opens it to the air to a considerable depth and brings up masses of soil to be weathered and broken down by subsequent rains, but is a costly operation. On the wet lands of certain Karúr villages, where the Cauvery gives a perennial supply, the soil is said never to be allowed to dry, nor is the land ploughed, but upon the cutting of a crop, of which a long stubble is left, a quantity of wild indigo is flung on the ground, water turned on, and the stubble, green manure, and soil trodden by men and cattle into a uniform mud of considerable depth. This can only be practised with advantage when the water-supply is perennial, and is an excellent mode of securing a finally mixed and deep tilth. There is no superstition in this district

as to spoiling wet lands by dry ploughing; no sooner is the crop off the ground than thousands of acres are put under the plough to fallow for the next crop. In garden lands, however, it is believed that to plough when dry is prejudicial to some crops, such as tobacco; fungoid diseases are attributed to such ploughing (*vide infra, sub voc. "Tobacco"*).

Manuring.—Manuring is yet in the empirical stage; ordinary manural substances and their effects are perfectly understood, but the science of manuring, its mode of action, the improvement of the methods available, the return to the soil of all that is taken from it, and the value of mineral and green manures (for dry land) are unknown. Special manures are used for special produce; details will be found under the respective crops.

Farm-yard manure.—Cattle dung is *never* used as fuel except in towns; very occasionally a few bratties may be seen in a bandy-pettah, but not a hundredth part of the cattle dung is so used,* partly because the value is perfectly known, partly because fuel for the few wants of the ryot is supplied by hedge and tree loppings, cotton and kambu stalks, and so forth. The following proverbs are interesting:—பாபும் சலமுழுதும்பட்டு பழய எலுவெடுத்தக்கொட்டு, "Old muck and lots of water;" காடுவெட்டி தஞ்செய்ப்பன்று மாடுசெட்டி வலசெய்க்போடு, "Turn dry land into wet, pen your cattle (in the field), and feed straw to them;" ஏரினும் தஞ்சும் எலுவிறதம், "Muck is better even than the plough." சூட்டெரு அத்த போசம் மாட்டெரு மதபோசம், "Sheep dung for the immediate crop, cattle dung for the succeeding crop." எஞ்செய்ப்பாதது எலவு செய்பாதது, "If manure is useless, (good) soil is useless," or, "Manure is better than good soil."

Village sweepings and cattle droppings are most diligently sought for and stored up in village commons, backyards, and fields, for use in the numerous gardens which require much manure, or for dry fields when there are no gardens; pots and tiles are burnt with the village sweepings, kambu stalks, and small wood, but not with bratties. It is a mistake to argue from towns to the country in this matter, especially when cattle-folding and garden cultivation are general. But the quantity and quality of the manure and its application are often defective. All garden owners either own sheep and goats, or hire them from men who keep them for manuring purposes. When not manuring gardens, they graze or are folded on the dry land of their owners or hirers. An ordinary garden will have 20 or 30 sheep and goats; some

* The ryots who told Mr. Robertson that they used half their manure as fuel were stating an untruth; they do nothing of the sort. The manure is dropped on the field and ploughed in, and that which is dropped in the houses and yards is carefully collected into heaps for removal. Bratties are extremely rare in villages, and even on black cotton soil they are not so much used as supposed, the cotton and kambu stalks, and firewood from the forests, supplying most of the fuel. In these cases the ash forms part of the village sweepings, which are carefully collected. It must be noted that there has been no great cutting of jungles, and thereby decrease of fuel; the jungles of the Coimbatore plains were mere open wastes with a few thorny shrubs and scanty herbage thereon; any loss by breaking up these lands has been fully recouped by the subsequent hedges and crops.

have many more. By day the animals graze over the dry fields of the owner, sometimes on road sides and wastes in search of oftentimes scanty and coarse herbage or tender branches. At night the sheep and goats, say 20 or 30 with 3 or 4 cattle, are penned in a space of some 50 or 60 square yards, the place being changed every second day; the cattle are tied outside. Hence at this rate, viz., 100 square yards per two days including the space occupied by the cattle, it takes three months thoroughly to manure an acre, or 4 acres per annum. It is, however, common to see several such pens in a garden. The cattle in many cases spend their whole time in the gardens or fields which they are manuring, working at the well or plough, and being fed on the spot with cholam or other fodder, cotton seed, &c. The cows and calves are also kept in the gardens, or in pens close to, or within, the houses. The chief defects in this manuring system appear to be (1) the loss during* the day when the animals are not kept in the gardens, though this is not a loss when they graze on grass or fallow fields; (2) the want of proper rich food except to the working or milch cattle, sheep and goats seldom getting anything but grass and young leaves. There is in Coimbatore no rain or moisture to waste the nitrogen; the hot sun instantly dries the dung, and it gradually decomposes in contact with the absorbent soil, till on the first rain it is once for all stirred in the act of being ploughed in. The other component of farm-yard manure, viz., straw, is abundantly supplied, (1) by the stubble left in the soil; (2) by the fodder (cholam, etc., straw) fed to the cattle, much of which is not eaten; (3) by village sweepings, which are mostly vegetable. A garden will be found full of straw, roots, and vegetable rubbish (kuppei). As regards the quantity, which depends on the number of cattle and sheep, it will be shown below, *sub hoc*. "Stock," that the official statistics are wholly untrustworthy and might nearly be doubled.²

* The figures supplied to Mr. Robertson and quoted by him in paragraph 160 of his report are incorrect as regards pottah area. They are shown correctly as follows:—

Quinquennia.	Annual average.			
	Occupied.			
	On full rent.	On cowle or remission.	On grass rate.	Total.
	ACRES.	ACRES.	ACRES.	ACRES.
1838-43	1,194,924	49,257	288,814	1,524,015
1843-48	1,345,372	59,245	201,333	1,605,950
1848-53	1,417,574	12,617	173,206	1,603,397
1853-58 .. .. .	..	..	..	1,677,748
1858-63 .. .. .	..	..	..	1,738,632
1863-68 .. .. .	..	..	..	2,107,088
1871-72 .. .. .	..	..	..	2,293,926

Subsequent to 1853 the details are not separated.

Hence the ratios of area to cattle are different from those given in the report, and allowances have also to be made for the probable increase of cattle and sheep as stated above.

Deductions as to manure (except the general one that, human excreta deducted, there is not nearly enough available) must be accepted with reservation.

Oil-cake and seed are not neglected; nearly the whole of the cotton seed of the district is consumed locally, while gingelly cake is used for cattle, both cows and bullocks, but is also exported. Ground-nut is unfortunately exported whole to Pondicherry. Castor seed refuse is thrown into the dung-heap or burnt; most of it finds its way in the sweepings to the fields.

Village sweepings.—These are never wasted. An often repeated complaint of sanitary inspectors is about the heaps of refuse of all sorts piled up in the village common or in backyards, and it is common to see gardens and even dry fields dotted with heaps of sweepings; in some villages pits are dug to contain them, and this plan might be usefully extended. The laborers or ryots going to their fields, daily carry a basket of this rubbish to the fields where it may be wanted. Such sweepings, however, do not intentionally contain human excreta, which are not desired. Wet fields are never manured with sweepings, but only gardens and dry lands. At Erode the town sweepings are at once taken up for the surrounding gardens, but at Karūr, which has nothing but rice-fields around it, not a load can be got rid of.

Green manures.—These are unknown except in wet lands, and then only in the form of loads of wild shrubs, especially kolinji and yerukam (*Tephrosia purpurea* and *Calotropis gigantea*); *Cassia auriculata* and the young shoots of *Pongamia glabra* are also largely used. Green crops for direct manural purposes are never grown, nor is the practice known. Probably in this district of scanty and uncertain rain and sandy soil, the resulting improvement to the absorptive and retentive power of the land would be incalculable; the April-May showers would enable gram to be sown and ploughed in with the July showers preparatory to a grain crop. This happens to a slight extent when, as chiefly in Dhārāpuram, cholam is sown on dry lands in April-May; this frequently fails for want of rain and is grazed off by cattle; similarly the kambu sowings of July and the cholam sowings of November frequently fail and are thus utilized. On wet lands the above wild shrubs are applied to the fields at the rate of four to six loads, or say 2 tons per acre annually if possible. The value of this manure is evidently due not merely to its power of storing nitrogen, but to its physical effect upon the fine clay deposited by the water, and on the stiff puddle of the upper soil which would grow no proper crop if not physically improved for plants by this organic addition; these plants are selected simply because of their abundance. Ryots state that any non-thorny shrubs are useful, but that kolinji is the best; thorny shrubs are merely objected to because the plants are trodden into the puddle. Rupees 5 per acre of wet land as the cost of manure, irrespective of the cost of treading in, has been calculated as a fairly good expenditure. A gram crop sown on wet lands immediately after harvest in March-April,

while the ground is still moist, and ploughed in with the first water of June, would be a very economical and effective mode of green manuring, and would insure also the ploughing, which on wet lands is often neglected until June.

Mineral manures.—Except as ash these are unknown, though obtainable. Saltpetre is abundant in many parts. It is true that the soils and water often contain a good deal of potash and soda salts, but a top-dressing of saltpetre would hardly fail of improving certain crops. The price (Rs. 3 per 25 lb.) is now prohibitive. Its place is partly supplied by the water used, which must be brackish according to the ryots' experience for the best tobacco, of which the higher classes are grown in soils known to abound in salts and lime. Morumba (decomposed gneiss) might probably be employed by reason of the potash in its felspar. Salt is not used on account of the expense either for soils or cattle, though much required for the latter. Salt earth abounds however in the district, and the cattle probably benefit by it indirectly. Lime is not used, and is probably unnecessary, most of the soil being calcareous and the remainder strongly impregnated with lime. River silt is of course the distinctive manure of the wet lands, and consisting largely of the felspathic constituents of decomposed gneiss, is very fertilizing. Tank silt is much used where available, especially for red loams and sands, while on the other hand, black soils are sometimes altered by an admixture of red, when found to be too stiff for garden cultivation or for particular crops. The ash of plants is, however, used and its value well known; *e.g.*, the stalks and pods of gingelly are often burnt in heaps and their ash returned to the soil: village sweepings contain a good deal of ash. It is not understood why plant stalks of the above kind are not returned direct to the soil instead of being burnt.

Other manures.—Animal manures, other than the excreta of stock, are not used. Bones are collected and exported, heaps ready for export being occasionally met with, but are not used in the district. Coprolites are not found, the formations being primitive or nearly so. Human excreta are not used openly, but are found to some slight extent in village sweepings, while the universal superiority of fields around the habitations is largely attributable to their usefulness as latrines; similarly wet fields and gardens near and within towns. But generally speaking, the lanes and hedges around houses are fouled with matter in its wrong place, and the chief manural agent¹⁰ becomes a curse for want of employment. The remedy is in agricultural education and in

¹⁰ The most serious defect of agricultural practice is the neglect of this natural circulating manure; every year a population of 1,450,000 takes from the soil for food at least 230,000 tons of grain, besides an enormous mass of other produce, and of this but little is returned to the fields; the lanes and prickly-pear jungles and hedge sides are foul and mounded with excreta "*quam faciant letas vegetes*," and though a good deal is deposited in fields, and though a good deal more is blown when dried or washed by rain on to the

the adoption of the homestead or farm-house system of living, instead of herding in villages; there are signs of the gradual introduction of the former system, petty hamlets and houses on puttah lands being on the increase. The ash of paddy husk (*umi*) is now wasted to a great extent but in towns is much used for fuel with castor cake and cattle dung in the form of bratties, and the valuable ash thus obtained to some extent is returned to the soil.

Rotation of crops.—Rotation of crops, as understood by Western farmers, is not generally practised; the same crops are grown every year on the same fields; any modification is caused (1) by the earliness or lateness of the rainfall; *e.g.*, if the south-west monsoon is late or deficient, only gram or cholam would be sown, say, in Perattási instead of kambu as in the previous year, and as would have again been sown in the current year; or (2) it depends on the season still available for sowing; *e.g.*, if cholam or gingelly is sown in May and cut down in August, it is necessarily followed in October by cotton on black soils (Udamalpet) or gram on red soils (Kángyam, &c.); similarly on garden lands, ragi and garlic sown in May are reaped in August and followed by tobacco, and a well-known succession is ragi in May followed by tobacco from October-November to February-March, succeeded by cholam in April; this latter rotation is noted by Buchanan and regularly practised at this day. But if (say) garlic is sown in November and dug in March, it is necessarily followed not by tobacco, but by cholam. This shows that the rotation generally depends on the season.¹¹ Buchanan mentioned, however, a peculiar rotation in Polláchi, specially noting that the cropping practice is there conducted with more judgment than generally in India; this is of three kinds:—

Kind.	First year.	Second year.	Third year.	Fourth year.
I	Kambu ..	Cholam first; gram second.	Grass (fallow, &c.) mowed by folding. Do. do. ..	....
II	Kambu ..	Símá (or Ellá) first; gram second.	Do. do. ..	....
III	Kambu ..	Cholam and Náđán cotton.	Cotton continues (sometimes cholam between rows of cotton).	Grass.

land, most of it goes to the sea or to fertilise the wet lands. Hence the serious deterioration of dry lands, on which 8 to 10 bushels of grain in husk or 30 lb. of clean cotton is often a good crop and 4 to 6 bushels an ordinary crop. Until every man lives, etc., on his own field this must continue under present prejudices; that every man should void himself in or for his field is the aim alike of the sanitarian and the agriculturist; artificial manures are too expensive for the ryot, and it is essential either that the direct Manure plan, or the indirect Flemish, German and Japanese plan, be deliberately adopted (see Appendix.)

¹¹ *Of the saying* പറക്കൽ അനുസരിച്ചിരിക്കുന്നു, "Crop according to season."

Garden sowing differs according to crop ; after thorough ploughing, some crops, *e.g.*, cholam, are sown broadcast, and the land subsequently formed into square beds for irrigation ; others, *e.g.*, ragi and tobacco, are sown in nurseries and transplanted to beds already prepared. For details *vide* "Crops."

Wet land is sown in different ways according to crop ; broadcast, as the common sorts of paddy, transplanted, as ragi or samba paddy, or by stem or root cuttings, as sugar-cane, plantains, sweet potato, and turmeric, etc.

Ordinary dry sowing is generally mixed ; when the three-year cotton is sown on red soil, it is mixed with kambu and a little pulimanji (*Hibiscus cannabinus*) with castor or beans in furrows, or it is sown with cholam or gingelly in hot weather ; when the kambu, etc. are reaped, the young cotton is left to grow ; similarly on black soil, coriander, thenei, or Bengal-gram is grown with cotton. Gingelly is also mixed with castor, cotton, and dholl and sown on dry lands in April-May. Samei is often sown broadcast, with dholl in lines. On garden lands when turmeric is planted, castor, onions, and pulimanji are usually put down, chiefly to shade the turmeric, or yams (senei-kilangu) are planted with it. Ground-nut is planted usually with ragi. Other mixtures will be noticed under crops ; variations are to be found in every taluk.

Transplanting.—This mode of sowing is chiefly used for the samba (cold weather) rice crop, and for ragi and tobacco ; with rice the choice between broadcast sowing and transplanting depends on the cost and season, and the energy, custom, etc. of the cultivator. Buchanan mentions that it was not regularly practised in Erode, though it was in Satyamangalam, where the rents (kists) were high ; it is now universal for both first and second crop in almost all Erode lands, and has lately been introduced by an Erode ryot into his lands under a tank, an example followed by others when they saw the improved yield. Except on dry lands, ragi is never grown otherwise than by transplantation. The plants are usually kept in the nursery from four to six weeks, removed when about a span above ground, and planted out neatly in small bunches by women.

Seeds are not steeped in any mineral preservative, but sometimes cow-dung water is used with cotton to prevent adherence, and it may be, as a stimulant ; paddy is steeped either in plain or in cow-dung water, and the treatment is such as to hasten germination by moisture and warmth. Cholam is also sometimes steeped for a short time in warm water.

Interploughing.—Weeding is regularly carried on, but usually only once on dry lands. The interploughing, which takes place when the crop is about a span high, removes both the superfluous plants and weeds and opens the soil to the air, and this is often all that is done to common crops. In wet lands the water keeps down most of the weeds. In garden lands the soil is kept very clean, the denseness of the crop

materially assisting in preventing weeds. The weedings given will be described under each crop, it being premised that there are variations among ryots, as amongst farmers everywhere, weeding being in proportion to the industry, skill and capital of the ryot. Amongst poorer ryots, and for catch crops such as gram sown in November, very little, if any, weeding is given, and the crop, already poor, is choked by weeds. It is frequently admitted by the ryots themselves that the area cultivated is in excess of the capacity for proper cultivation, and this is notably shown in the weediness of many of the poorer lands. Interploughing is, however, invariable on dry lands; when kambu and cholam are from a span to a foot high, they are regularly ploughed through to open the soil, destroy superfluous plants and weeds, and to throw the cultivation into a certain regularity. The importance of the practice is recorded in the proverb அடர்த்தியை அப்போதார் புண்கதலத பிண்ணுலோடார், "Attend to the thick-grown plants first." Similarly, three year cotton is regularly interploughed when rain falls, and gram and even kambu are then occasionally sown. It is, and is regarded as, a most important item of practice, and in dry years, when interploughing at the proper season is difficult, kambu is often choked by weeds and for want of air to the soil. A frequent remark upon a weedy, ill-conditioned field is that the ryot has too much land for his means.

Reaping.—Reaping is performed in various ways, and the results to the soil vary with the practice. Only certain crops are cut, and the stubble left to rot in the soil; wet and garden crops are usually treated in this way, and cholam on dry land, but the staple dry crops, viz., kambu, pulses and cotton, are all dragged up by the roots. The ears of ragi in gardens are plucked as they ripen; similarly, in dry lands, the ears of kambu are first cut off, say in October and November, but the stalks are left until the pulse harvest in January-February, when the whole is pulled up together. Cotton is treated in the same way, one-year cotton being rooted up at the close of the picking and other cotton usually in the fourth year; hence by cotton cultivation, lint, seed, and wood are totally removed from the soil. Kambu stalks are used for fodder, fuel, and thatch, cotton stalks for fuel and for coarse tatties. Paddy, ragi and cholam straw are carefully stacked for sale or fodder, the straw being no inconsiderable part of the value of the crop.

Threshing.—Threshing is not peculiar except that a sort of ferment is caused in some cases before threshing; e.g., ragi ears are heaped, covered with straw for a few days, and afterwards dried and threshed. Threshing is usually done by cattle in the Eastern fashion.

Paddy is generally threshed twice, once by hand and once by cattle. The first is performed with great ease and celerity owing to paddy being cut when dead ripe; a good sized bundle is handed by a woman to the thresher, who, with a single motion passes a cord round it, strikes it one heavy and one light blow on the ground, and tosses it to the stack nearly cleared of grain. One great objection to Carolina

paddy was that it could not be threshed in this simple and rapid way. The grain which results from this threshing (*செவ்வாய்*) is the finest and ripest, and seed is always selected from it.

Pasture.—This all important subject receives little attention, though more than has been supposed. In taluks such as Dhárápúram and Karúr, many fields are permanent pastures, either natural or sown.¹² The fields, though stony, afford a good deal of pasture between June and February, but very little is to be found during the hot interval, and it is this trying break that, where forests and hills are not available, prevents cattle from thriving as they might; disease also frequently breaks out after the first rains, when the sudden growth of grass is greedily devoured. The herbage is coarse, wiry and tussocky, and there is no sward as in English pastures. Artificial pastures are comparatively rare, but in some taluks, notably the above two, the practice of ploughing and sowing lands for pasture is practised. Hariáli and an indigenous grass called kolei-kattai are sown, the latter most frequently; it is a very tall wiry grass, running rather to tussocks, so that a Coimbatore pasture little resembles those of England. It gives good feeding to judge by the prices paid. The lands are ploughed in the hot-weather rains and grass seed sown either by itself or mixed with cholam, gingelly, etc.; if the north-east monsoon is good, cattle are turned in to graze in the following January, nine months after sowing; they graze through the hot-weather till the early rains of the south-west monsoon. Grass is occasionally sown with gram in September, sometimes with kambu in July. The land is usually manured when the grass is sown, and thereafter the cattle grazing on it for several months in the year manure it. The pasture lasts for many years, and is then again ploughed and re-sown, or broken up for crops. Pasture growing is often a better speculation than crop growing, as a field of 8 or 10 acres will be grazed by as many cattle at from 4 annas to 1 rupee per month for several months. In addition to the grasses sown (usually hariáli and kolei-kattai), other grasses, such as vennei, mattankáy (*Cynodon dactylon*), ilêi (*Panicum marginatum*), souri-kodi, and naripayathán-kodi grow spontaneously. No attempt is made to adapt the soil or to use other grasses. It is stated that the use of saltpetre for hygroscopic purposes would much improve pastures; this can be got good, but no longer cheap. The three-year cotton fields also yield a good deal of pasture, and as cattle and ponies do not touch the cotton, they are regularly turned in to graze.

A good deal of grass is grown near wells along the water-courses, etc., and this is gathered or grazed. Nullahs, which are frequently edged with banks of turf more nearly approaching English turf than

¹² Cf. the proverb அருள்காட்டி மிட்டமும் கெட்டான் குலமாட்டி மிதமும் கெட்டான், "Ruia swails the man who gives up pasture or who sells a bullock that was of use to him."

any except that in tank-beds, paddy-fields after the crop is cut, and the water-spread of tanks beyond the deep bed, also give a considerable amount of pasture. In the taluks bordered by hills (Bhavāni, Satyamangalam, Coimbatore, Pollāchi and Udamalpet), the cattle are sent to the hills in large numbers for the dry weather, large herds and pens being frequently met with; the conflicting views of foresters and ryots on this subject demand consideration. The other taluks have no such resorts.

It has been supposed that the district once abounded in good grass lands, that these have disappeared and been brought under cultivation, and that this, especially as regards the best pastures, was brought about by a change in the assessment some years ago, by which ryots who had been accustomed to hold pasture lands on puttah at one-fourth of the assessment were permitted to do so only if no other person was willing to take up the land for arable culture at the full rent. This opinion will be removed by the following information.

In 1800 Buchanan inspected the district with special attention to its agriculture, and he expressly states that only the worst lands were left for grass, and were either common or fetched only a trifling rent ¹⁴ (assessment, not economic rent), usually about 4 annas per acre; sometimes this was broken up for gram ¹⁵ at one-fourth of the full survey assessment. Mr. Campbell also in 1832 mentions the grass lands as "inferior soils" (Fifth Report, reprint, second edition). These assertions and the revenue statistics show that all the best lands were under cultivation early in the century, and only the poorer sorts were left untilled; it is these that were the so-called grass lands, part of which were held on puttah, part formed the large area of poor lands that were classed as Government waste and were taken into puttah only after 1855; of these the puttah grass lands were those known as *ayan-pillu*, while the Government waste lands were subject to the *paravu-pillu* rent.

Ayan-pillu.—In other districts the lands held on puttah, but not cultivated, were excluded from the *jamabandī* and remissions granted, only the cultivated area being charged for; in Coimbatore it was originally customary to charge full assessment for all puttah lands, whether waste or cultivated, and as this was considered hard at then prices, the custom of allowing one-fifth of the total holdings to be held on so-called grass rent (*ayan-pillu-varī*) at one-fourth of the assessment

¹⁴ Buchanan has not distinguished between the *ayan-pillu* and *paravu-pillu* lands, the former being puttah lands held at one-fourth assessment, the latter Government waste, rented while waste at a small rate and occasionally let out on gram cowle tenure.

¹⁵ The discussions on the gram cowle tenure show that the lands which came under that cultivation were only the very poor lands which could hardly give any return for cultivation, and ryots were consequently allowed to run their chance for a single year at a time, at the very low rate of from 2 to 4 annas per acre, sometimes to take advantage of the season especially in years of bad rainfall, sometimes to "test the capabilities of the soil."

was introduced. This remission, which amounted to about one-seventh of the total land revenue, was not on particular fields, but on the whole holding, and a ryot might graze or till his fields at pleasure. No custom existed of granting puttah lands thus held to other ryots if willing to cultivate them; on the contrary, they were part of a ryot's regular farm (*patkat*) and were held as indefeasibly as his other lands. But as population and prices rapidly advanced, especially after 1855, these lands became more profitable for tillage than for pasture, and were broken up by the owners themselves, and other and still poorer lands taken up for grazing from the Government waste area; the necessity for what was really a remission having ceased with the doubling of prices, the remission was gradually brought to an end by permanently charging full assessment for all lands whenever changed from grass to arable, so that in 1875 the grass remission had almost died out by the spread of cultivation. It will thus be seen that the rule was precisely opposite to that supposed; up to 1880 (new settlement) a ryot might, so long as he chose, hold indefeasibly up to one-fifth of his *patkat* land as pasture at one-fourth of its true assessment, and it was only charged full rates when cultivated, which could be by himself only and not by others; hence the rule was a distinct premium on retention of land under grass, and not an incentive to breaking it up. Having practically died out by 1880, the remission was abolished at the new settlement.

Paravu-pillu.—The *paravu-pillu* tenure was different; the land under this denomination was the *unoccupied* Government common waste land not held on puttah; the privilege of grazing this "scattered grass land" was usually rented to the village or village headmen, provided no one wanted it or any part of it for cultivation. This land has almost disappeared, having been taken into puttah by the various ryots when their other and better lands were broken up as stated above, and it is this land only, the poorest of the poor, that lay wholly waste and unprofitable for tillage till the rise of prices after 1855, which came under the rule above noted; it is this land which was the sole reserve from which an increasing population could obtain land for cultivation. Moreover, the land taken up for cultivation or into puttah was not jungle or pasture properly so called, and there was more gain in fodder than loss in their being taken up. In 1817 Mr. Drury stated that the period of grazing on the waste lands was confined to four months, October to January, "for after the month of January the grass is so withered as not to be worth preserving." It has been supposed that the many myriads of acres taken up of late years were jungles which supplied pasture and fodder and fuel, and probably modified the climatic conditions of the district by promoting rainfall. But the report of Buchanan shows that the district in 1800 was very bare of trees, and in 1807 Mr. Hodgson, who was specially deputed to report on the district, states that it is a high open tract "almost destitute of trees

and but little overrun with jungle; its soil is stony and generally very poor." In 1838 Mr. Bahington stated that "in a district so destitute as this is of wood, it seems rather desirable to encourage this description of cultivation," viz., that of topes and orchards. From early in the century the occupied area was very large, so that the little jungle there was had fallen to almost nothing long before 1875 (*vide* statistics of occupied area, etc.). Moreover, this so-called jungle was nothing but the bare open land which was the subject of the "paravu-pillu" tenure or of "gram cowle," and there is nothing in the records regarding jungle properly so called except on the borders of hills. The misconception is probably due to the word "kádu," ordinarily supposed to mean "jungle," a word which usually begets the idea of forests and woods; in Coimbatore "kádu" simply means and is used to denote dry land, whether occupied, cultivated, or waste. It must be clearly understood that the grass lands of which the ryots bemoaned the loss, and "the jungle" supposed to have disappeared, are one and the same, viz., the poorest dry lands wholly untilled and unoccupied, and producing on their stony and sterile surface a few straggling and stunted bushes and a little coarse, hardy grass. The better grass lands held ancestrally by the ryots have been broken up by their owners at their own pleasure and for their own profit, and the increase in occupied area has, on a comparison of existing facts with Mr. Hodgson's description, led to a great increase in tree growth.¹²

Fodder.—Fodder crops grown as such are rare, but the practice is known throughout the district and is occasionally followed. In the Kángyam division of Dhárápúram, where the best cattle are still reared, there is a regular practice in February-March of growing either cholam or kambu (chiefly the former) under well-irrigation; this is called *adar* (அடர் = close, crowded) cholam from its being sown closely so as to yield heavily, and is grown at any time that fodder may be wanted. It is cut down before earing and affords considerable provision during the hot weather. Fodder crops are not grown on dry lands; there is considerable pasture except in the hot weather, and as it is unusual to get rain sufficient even for ploughing from the end of December to 15th April, no such crops are possible except on garden lands. Cholam straw is a favourite fodder and is carefully stacked for use; the numerous stacks that dot the black cotton soil of Udamalpet and all gardens, are an agreeable feature in the landscape. Paddy, sámei, and ragi straw are equally approved of; kambu not much. The ryot excuses himself from growing fodder by alleging, and with some reason, that as his cholam fodder is little injured by growing to maturity, he grows cholam as a grain crop rather than as a fodder crop, for the double yield; the expenses of well irrigation in the hot

¹² The supposed hardship to the ryots by a supposed change in assessment has given rise to much misconception, and hence a somewhat lengthy treatment of the subject. The above section was written before reading Mr. Clogston's account in his Settlement Report; his remarks tally and will be found on pages 56 to 53 of his report.

weather are considerable, and few could afford to lose the grain of the crop. Nevertheless it is probable that a grain crop could profitably be raised in the April-May rains, either to be fed off by stock or ploughed in as green manure.

Ensilage has not yet been practically tried; the abundant coarse grass of the rainy weather might possibly be stored with advantage for the hot months.

Irrigation.—This is of two kinds, wet land and garden, the former being from channels or tanks, and the latter from wells.¹² The chief source of wet land irrigation is from channels or channel-fed tanks; the total irrigable area of wet lands is 98,797 acres, or 3 per cent. of the total assessed area and 4 per cent. of the total occupied area.

Channels and Channel-fed Tanks.—Every available acre under existing sources is occupied, the occupancy right bearing a high sale value. As stated above, little actual manure is used for wet lands; the silt of the water acts as manure. Hence the object of the ryot¹³ is to get as much water as he can on to his land, and by sluices as big and numerous and difficult to shut as possible. The volume of water poured on to the lands probably averages a depth of 12 feet¹⁴ in the season, so that at only 20 grains per gallon, about 4 tons (dry) of rich silt would be deposited, the water running clear from the field. This with the green manure and the droppings of cattle in the non-crop season accounts for the good yield. Wet cultivation is not really high cultivation; the water keeps down the weeds and deposits the manure, so that the ryot has little to do; it is really swamp cultivation and not real irrigated cultivation, the only difference between a paddy-field and a swamp being, that the water is not allowed to stagnate on the surface; nothing but country paddy will grow on the regular wet lands when treated as usual; ragi is sown generally in the higher and better drained fields, turmeric declines to grow in any but plots elevated a foot or two above the surrounding fields, and for betel, plantains, and sugar-cane a special practice is needed by which the water is drained from the soil by cross-drains, which are emptied by baling or by under-tunnels if the ground is on the ordinary level. The consequence to the crop of this swamp cultivation is serious; being now semi-aquatic and lateral-rooted, it has no strength or depth, and draws its supplies from the surface only in which its roots lie, so that a short cessation of supply, if it does not kill the crop, seriously reduces the outturn. If water be shut off for fifteen days except at certain stages of growth, or in the rainy weather, the yield will be seriously reduced, and this, though the surface soil would still be moist, and

¹² Only the practice will be here discussed; for system, &c., vide "Irrigation."

¹³ Proverbially expressed as follows:—பாபும் சலமுமுதும் கட்டு பழை எரு அம்புலாடு, "Put all the water you can, and old manure," or again, மச்செரு தஞ்செயும் மலையடிப்புஞ்செயும், "Nanjel close to sluice, and punjel close to hills."

¹⁴ Twelve feet per crop is probably used, or rather wasted, on the Kalingariyan, at least in the upper villages.

that a foot below the surface would be water-logged.²⁰ Hence the troubles of ryots and revenue officers; a breach in the channel, or a low channel involving supply by turns, is apt to damage the crops of the ryots and the temper of the Revenue and Public Works Department officers, especially where, as in this district, field sluices have no mechanical means of closure. In Amarāvati irrigation there are two chief critical periods, viz., the ends of the two monsoons; in September there is apt to be a low river and little rain, while if the north-east monsoon is a failure, the river gives very short supplies after December. The low-level right-bank lands of the Kalingarāyan, though more than wet enough for ordinary crops and saturated with sub-soil water, will grow no paddy unless the channel rises above 1 foot 7½ inches at the aqueduct so as to pour a flood of water on the fields. If the soil of the fields under these sources were in really good condition, so that the roots of crops could utilize a good depth of soil instead of 3 or 4 inches, abundant crops would grow in all years, and the ryot would hardly mind a drought of several weeks.

Another evil arising from the waste of water is the continual and universal difficulty felt by the lowest villages on a channel; this being a matter of supply, will be fully discussed under "Irrigation" and is mentioned here to show how important a better style of cultivation would be; in the upper villages by economizing water, in the lower villages by making a better use of the supply which is somewhat precarious. Except for the above two great reasons, the waste of water under most works in this district is not very material, for it is to be noted (1) that unless at the tail ends of a few channels, there is usually no more land available for irrigation from existing sources, by reason of the level of the country; (2) that the drainage water of one channel in a chain of channels irrigates the fields of the channel or channels below, either directly by flowing into the fields (*cf.* Pallapālaiyam, Karūr and Panchmadevi channels at Karūr), or indirectly by returning to the river and thus supplying the lower channels: the Amarāvati is a good instance of this. It is only occasionally that more land could be utilized, although it is probable that works could sometimes be extended in length (*e.g.*, Kalingarāyan) by engineering skill and State outlay. For further details *vide* "Irrigation."

Rain-fed Tank Irrigation.—This is very precarious, but is similar in character, the ground being swamped so long as water is available; the crop withers or is very short if a full supply is not kept up; hence the ryot seldom begins cultivation till the tank is full, and thus, where the tank is small, often loses the first supply. It is almost as wasteful as under channels, it being common to see a large sluice running full

²⁰ It is worth considering whether while expending scores of rupees in improving works of irrigation, a small percentage might not be usefully spent in ascertaining the best mode of rendering a paddy crop less wasteful and precarious, not by farm experiments, where the locality and condition can be selected, but by field experiments where existing circumstances and rights, such as those of neighbours, levels, &c., have to be taken into account. It is probably a matter of engineering as much as of agriculture.

with only a few acres under cultivation. Under the smaller or more precarious tanks, wells are usually dug in the fields, by which, even with a poor supply, sugar-cane and plantains are freely raised (*e.g.*, Puttūr-pallapālaiyam in Erode); in this case, the irrigation is rather that of wells aided by the percolation from the small tank supply.

Baling to lands on the natural bank of channels is a good deal practised, and such lands are very high priced and productive, having abundant water, a low lift, and a natural drainage; the turmeric and other gardens of Erode are among the best lands in the district. Much more should be done in encouraging this class of irrigation (as by masonry channels led from the main channel), somewhat lower water-rates being charged to compensate for the longer lift as the lands recede from the channel; it is by far the most economical mode of using the water.

Well irrigation is altogether different; the irrigation wells are large and costly, and as a rule sunk to, and into the, apparently solid rock, which is, however, more or less fissured and veined. Wells range from 12 to 15 feet to 30 or 40 feet from the water to the trough, according to soil, situation, and season, so that the water is somewhat costly by the time it reaches the surface. From the trough it is led by an earthen channel sometimes 100 yards to the garden beds, which are small embanked spaces of 6 or 8 feet square; a turn of the foot or hoe directs the water from bed to bed. The water is used with much care, about 15 to 18 inches being the usual amount for a three or four months' crop of ordinary cereals; two fingers' depth, or say 1½ inches, is usually considered the quantity let on, and this is given ten or twelve times during the crop, sometimes only eight to ten as in the case of cholam; 15 inches means 1,500 tons, or 336,000 gallons per acre. About one-third to two-fifths of an acre is watered per day, according to height of lift and strength of the bullocks, from an average well with a single lift, so that, allowing for wastage along the channels, from 12,000 to 14,500 gallons are raised per day from 25 to 20 feet, the bullocks working eight or nine hours. (For cost, machines, and so forth, *vide* "Irrigation" and *see*, "Wells.") With this quantity of water excellent crops of cereals are raised, the quantity contrasting strongly with the quantity used on wet lands for paddy, a grain inferior to the nutritious cholam and ragi. In Karūr, and occasionally elsewhere, paddy is grown under wells, and then requires watering every day; for details see "Paddy." Wheat, which is grown with about eighteen to twenty-four such waterings, yields an outturn of 1,300 lb. clean wheat, or 1,900 lb. wheat in husk.²¹ Owing to the well-worked soil and the moderate use of water, garden lands are usually porous, healthy soils, requiring but little improvement, chiefly in the character of the manure, to have no superior in crop-growing. On this point Mr. Robertson's remarks in paragraph

²¹ As wheat is occasionally grown in gardens even in Erode taluk, it is possible that a better cultivation of the paddy lands there would give a large wheat crop in addition to a first crop of ragi, while in Coimbatore it is almost certain that this could be done; whether this, if exported, could compete with American or North Indian wheat is a question.

68 of his report are of importance, though they appear to be general, and are but slightly applicable to or intended for the Coimbatore ryot or his garden lands, in which the decaying stubble and remains of cholam, etc., fed to the cattle, village sweepings, and the droppings of the cattle and sheep provide a vast deal of humus, and which are tilled like the beds of a kitchen garden.

"Not only is it possible to reduce greatly^a the cost of lifting water from wells, but the water, after being raised, might be made to go a great deal further than it now does if proper means were taken. As a general rule the soils of the ryot contain but a very small percentage of organic matter, and the tendency of his farming is to reduce this small percentage still lower. The action of organic matter (humus) in the soil is well known; it enables the soil to take up moisture from the air and to store up that moisture ready for the use of plants. An application of a quantity of water equal to half an inch of rainfall on a soil containing 5 or 6 per cent. of organic matter, will produce better and more continued effects than a quantity of water equal to one inch rainfall will on a soil containing 2 or 3 per cent. of organic matter, other conditions being equal. In other words, if the soil was profusely manured and tilled, the quantity of water that now suffices only for 3 acres would suffice for 6 acres, and the effective work of a well would be doubled. There would be no practical difficulty whatever in increasing largely the organic matter in the soils; it would only be necessary that the ryot should use farm-yard manure in manuring his soil instead of burning the dung^b of his cattle, or that he should plough into the soil one or two green crops. Mr. Schiffmayer, in his experiments elsewhere reported, found that the soils of the Saidápet Experimental Farm had their powers of absorbing and retaining moisture increased 10 per cent. by the addition of 5 per cent. of organic matter."

The cereals grown are those of the dry land, but varied by continual cultivation with water on well-tilled soil, which forces their growth, so that garden varieties always arrive sooner at maturity. Kambu is called a 60 days' crop instead of 90 to 120 as usual.

The soil in which the well is sunk is of importance; the water is frequently charged with salts and lime; this exactly suits tobacco, which is excellently grown; it is well understood that water, brackish from the abundant salts (probably potassic from the decomposed felspar), is advisable for tobacco. The lime contained in the water also has important uses in cultivation, and it is probably due to the solution of these salts and to their presence in the soil that the comparatively poor soils of this district produce so favourably under wells.

Drainage.—Draining is little practised, except on wet lands for special crops such as plantains, betel, and sugar-cane. It would be both unne-

^a It is questionable whether the cost can be much if at all diminished so long as small gardens are cultivated separately; the native lift is a simple contrivance for small areas, and the power is applied on correct mechanical principles, and with the least friction, viz., by utilising the weight of the cattle moving down an incline.

^b As elsewhere stated, the Coimbatore ryot does not burn his cattle dung, but pens his cattle and sheep on the land which they are intended to manure, and ploughs in the whole droppings with village sweepings and other matters. Especially is this the case in gardens.—N.

cessary and impossible in most of the country, the surface soil being a thin porous stratum, usually resting upon hard semi-disintegrated rock (morumbu), but in many wet lands and some gardens of kallar (alkaline, soapy) soil it would be of great use. Almost all paddy lands, even those with a good slope, but especially those in flat or low places or on the upper natural bank of a channel, will be found to have a fairly porous upper soil, kept in good order by deposits of silt and by quantities of green manure and rotten stubble, but a stick pushed down will invariably meet within a few inches with a stiff, raw, soap-like clay as the sub-soil, completely water-logged with stagnant water, impervious to air and unfit for plant life. On many such lands, e.g., on the right bank of the Kalingarayan in the non-cultivation season, a heavy rain will stand for days and weeks, unable to pass off, stagnating, and filled with curious growths. The lateral root-growth of country paddy and the failure of deep-rooted exotic paddy is intelligible enough. It is well understood that turmeric and similar root crops grow better on garden than on wet lands, the former being porous and not swamped; on wet lands, if half-grown turmeric or ragi turns sickly and yellow, the fact is at once attributed by the ryots to "usaval tannir" or sub-soil water, and investigation proves them to be correct. The ryot's water goes over instead of through his land. This matter is one which would repay field investigation and experiment.³⁴

Similarly, kallar or soapy dry lands would be improved by draining; this alkaline soil, which is common, retains water, so that the surface becomes completely water-logged; sub-soil drains would remove this difficulty. In a case near Coimbatore, drained only partially by a lateral ditch, the result was that the ground near the drains gave a healthy crop, while the rest failed or nearly so.

Cultivation Seasons.—These are very well defined, depending, of course, on the regular monsoon rains, but variations are found in several localities.

Generally speaking, wet cultivation begins with the south-west monsoon or nearly from 1st June. All the rivers (Bhāvani, Cauvery, Amarāvati, Nōyil) are chiefly fed by that monsoon, and are generally in flood then. With this monsoon it is usual to grow a three months' (kār) crop of paddy or ragi, followed in October-November by the regular or samba crop of paddy with the north-east monsoon. A

³⁴ The general drainage of paddy lands is a problem which will tax both agricultural, revenue, and engineering skill. The rights of one ryot to the water flowing from his neighbour's field must be considered and settled, a matter of no small difficulty. But to put the most valuable lands of the country into a thoroughly healthy condition, capable of growing any crop, would be a task at once profitable and attractive. If the Kalingarayan irrigated area is now a valuable property and a smiling garden, what will be its value and productive power when agricultural combined with engineering science shall have regulated its field supply, drained its fields and rendered its soils healthy, so that a weekly turn (mure) of a couple of inches shall suffice for its ordinary crops, the irrigable area doubled or trebled by the then possible lengthening of the channel, valuable crops made cultivable on thousands of acres whenever desired, and a vast amount of nutritious food produced in lieu of a moderate amount, chiefly of starch.

proverb says கார்த்திகைக்கு மேற்பட்டு வகையிற்செய்யிறவேண்டும், "Throw away your nursery seedlings after Karthigai (November-December)." On single-crop lands where the water-supply is more precarious, it is usual to cultivate only a samba crop helped by the rains of the north-east monsoon, which in the plains of this district are heavier than those of the south-west. Other varieties of crop are grown, for which see "Crops." The usual season ends in March, but in some places (e.g., Dhārāpuram) a catch crop of gingelly is grown as a third crop, the soil being still damp, and the crop aided by April and May rains.

Garden lands are often occupied by crops for nearly the whole year and in nearly all there are two crops. In general, cultivation begins about June with a kambu or ragi crop; in October-November a cholam, tobacco, wheat, or chilly crop is put down, and in the hot weather from March a cholam or kambu crop is frequent. Circumstances differ a good deal according to places and previous crops, one tract of country having nearly ripe kambu or ragi crops in August, while in others the ragi transplanting may be only beginning; much depends on the April-May rains or their absence. But March for sowing the hot-weather crop, June and July for the south-west monsoon crop, and October-November for the north-east crop are roughly correct.

From January to April no crop on dry land is begun; this is the harvest season and rain is neither expected nor beneficial, unless it be a shower in early January for late cholam or gram, and rain in March for pasture. April and May are the months for preparing the land by ploughing, and any amount of rain may usefully fall; an occasional hot-weather crop (gingelly, cholam, etc.) is also grown. With July the ordinary sowing season begins. Seasons vary somewhat with the taluk; in Erode it is "Ādi-pattam" (July-August), and hardly any crop is ever grown before then unless the May-June rains are good. This season is general,²⁵ but in Pollachi it is naturally earlier, beginning with the south-west monsoon in Vayāsi (May-June). In this season are raised the staple cereals both on red and black soils, kambu with pulse being sown on red soils and cholam on black. With the rains of October and November cholam and gram are grown on red and gravel soils; the proper season for gram however being earlier, viz., in September, especially when the south-west rains are late for kambu, which ought to be sown in July-August so as to be reaped or to have finished flowering before the heavy rains of the north-east monsoon. Cotton is sown mixed with kambu on red and gravel soils in the south-west sowings, and cotton alone, or with coriander, etc., on black soils in October. Almost the only hot-weather dry crops are cholam and gingelly, which are grown with dholl, etc., to a small extent, chiefly in the north of Dhārāpuram, and in Karūr with the rains of April-May; these frequently fail from want of sufficient rain. In Karūr a cholam and gingelly crop is also grown in July-August, being usually ready for harvest in October.

²⁵ Cf. proverb தூடிப்பட்டம் சேடி விதை, "Try to sow in the season of Ādi."

*Outturn.*²⁶—This is a question of very great difficulty, and Buchanan remarks that not less than ten years should be spent on this special enquiry with numerous field experiments, before accurate information could be given. Results vary immensely according to soil, situation, water-supply, season, the ryot, and other factors. It has been asserted that the outturn has greatly diminished, and ryots have boldly declared that they themselves had noticed this fact. Were the official statistics of the former settlement (1800 and 1807) trustworthy, they might easily be quoted to prove just the contrary,²⁷ and Buchanan's enquiries would corroborate this contradiction; unfortunately no reliance can be placed on either set of figures, the former because they are evidently incorrect, the latter because they are often impossible, contradictory, and as stated by himself, the result of ridiculous assertions either by Tahildars or ryots. As stated elsewhere, ordinary ryots are too ready to mislead, too ignorant or too inaccurate, to be worthy of any belief in such matters, nor is it intelligible how lands cropped for thousands of years, as the best lands have been, should suddenly, *i.e.*, within twenty or thirty years, show a marked diminution of produce. The poorer lands have only lately (since 1855) come under cultivation.

For the outturn of paddy on wet lands the settlement figures on which the settlement is based are of great value, as they depend on numerous (1,572) measurements, mostly by Mr. Clogstoun in person, and the rest by his subordinates. The Satyamangalam kár yield in 150 experiments averaged 1,315 Madras measures of paddy per acre

²⁶ In this chapter the outturn has been stated in measures and pounds. The ordinary local measure holding 3½ lb. of second-sort rice and 2½ lb. of paddy has been taken as the unit, and measures have been turned into pounds according to the particular grain. The tables in the Appendix may be consulted for the measures of the district. Mr. Clogstoun's tables are, however, in Madras measures holding 3½ lb. of clean rice and 2½ lb. of paddy.

²⁷ A few instances from the official record of Coimbatore rates (Selection No. XXX from Government Records) will prove the above assertion. For the southern division, first-class black dry lands were stated to yield only 600 Madras measures of cholam per bullah of 2·82 acres, or 147 (= 7½ bushels) per acre; this was also stated for ragi and kambu, which as compared with cholam are seldom grown as dry crops on black soils. On first-class reddish black loam—one of the best producing soils—kambu was said to produce only 141 Madras measures (= 6½ bushels) per acre. The 1875 or new settlement figures for two poor years, upon actual experiments numbering 1,540, were 181, 201, and 217 Madras measures for cholam, kambu, and ragi respectively for the *wale* soils of five taluks then under report, and these soils included much of the poorest land not under occupation at all at the former settlement. Hence the average outturn on the first-class lands must be considerably higher. For first-class *garden* lands in the northern division, 206 Madras measures were put down as the outturn for two crops per acre, or 103 (= 1 puthi = 2 bushels) per crop; now-a-days 4 puthis = 38 bushels is a maximum, and 3 puthis = 27 bushels an average outturn per crop; the figures for garden lands in the southern division were considerably lower both for cereals, chillies, tobacco, &c. First-class wet land (Rode and Satyamangalam) was said to produce in two crops only 762 Madras measures per acre or 508 for the first and 254 for the second crop. The recent settlement experiments show 1,200 Madras measures for a single crop to be not uncommon on first-class land, and 1,800 ditto for two crops. The old figures were probably not believed in, and were possibly adopted to bring the assessment, theoretically stated as one-third or two-fifths of the gross, into tolerable harmony with existing gross assessments. If however they did approximate to the truth, existing outturns considerably exceed former outturns on all lands then under cultivation.

i.e., 657½ Madras measures (= 2,218 lb. = 34½ bushels) of clean rice, value Ra. 65 or 70. It is to be remembered that the year was a very good one for wet crops. The following table gives the settlement figures; the yield is in Madras measures:—

	Soils.		First group.							
			Good.		Middling.		Bad.		Total.	
	Class.	Sort.	Kyles.*	Yield.	Kyles.	Yield.	Kyles.	Yield.	Kyles.	Yield.
Samba or first-sort paddy.	2	1	112	1,447	108	1,004	2	502	222	1,253
	2	2	25	1,294	58	1,043	9	645	89	1,070
	4	1	83	1,432	62	1,033	2	654	137	1,260
	4	2	3	1,365	19	1,032	6	710	26	939
	7	1	21	1,332	112	906	3	895	136	1,040
	7	2	2	1,320	50	831	29	647	81	777
	8	1	..	..	1	809	2	708	3	709
	8	2	..	..	..	..	7	634	7	634
Total ..			246	1,412	397	1,001	58	652	701	1,117
Kar or second-sort paddy.	2	1	31	1,305	84	1,032	1	744	116	1,103
	2	2	3	1,355	33	987	2	709	38	1,001
	4	1	30	1,280	218	1,075	..	..	248	1,099
	4	2	3	1,306	9	1,011	3	323	15	972
	7	1	8	1,334	30	1,017	4	631	42	1,044
	7	2	..	..	41	852	20	678	61	802
	8	1	..	..	..	..	4	369	4	369
Total ..			75	1,302	415	1,032	34	650	524	1,046
	Soils.		Second group.							
			Good.		Middling.		Bad.		Total.	
	Class.	Sort.	Kyles.	Yield.	Kyles.	Yield.	Kyles.	Yield.	Kyles.	Yield.
Samba or first-sort paddy.	2	1	..	..	..	..	..	..	..	..
	2	2	..	..	..	..	..	..	..	..
	4	1	32	1,350	57	1,028	7	682	96	1,110
	4	2	14	1,264	29	990	2	524	45	1,058
	7	1	17	1,459	30	836	3	727	60	1,101
	7	2	..	..	5	928	1	728	6	895
	8	1	..	..	1	534	..	..	1	884
	8	2	..	..	..	..	..	..	..	..
Total ..			63	1,360	122	992	13	671	198	1,089
Kar or second-sort paddy.	2	1	3	1,277	1	1,200	..	..	4	1,235
	2	2	18	1,438	6	998	..	..	24	1,328
	4	1	40	1,610	16	1,053	..	..	56	1,499
	4	2	18	1,433	12	1,009	..	..	30	1,201
	7	1	6	1,431	12	982	4	685	22	1,051
	7	2	9	1,478	6	991	2	520	17	1,194
	8	1	..	..	3	976	..	..	3	976
Total ..			94	1,509	50	1,032	6	632	150	1,315

* Kyles = experiments. Paddy cleans into about half the quantity of clean rice by measure and two-thirds by weight, e.g., 6 Madras measures of paddy weigh 15 lb. and yield a little over 3 measures of rice weighing over 16 lb.

The next table contains the figures obtained for this manual after various enquiries in several taluks, and are average *maximum* yields stated by the ryots themselves; they are for channel-fed lands only except in Palladam, and are in terms of pounds avoirdupois of paddy; the Dhárápura and Erode figures are probably the nearest to accuracy.

Taluk.	Single crop— Samba.		First crop— Karuval, &c.		Second crop— Mubgi-Samba, &c.	
	Seed.	Outturn.	Seed.	Outturn.	Seed.	Outturn.
Dhárápura	75	(a) 3,000	150	2,400	100	2,400
Erode	75	2,850	89	2,400	80	2,400
Karúr	90	(b) 2,350	60	2,200	60	2,250
Palladam	100	2,400	..	..	..	..
Pollachi	100	2,700	..	..	..	..
Udamalpet .. ..	..	..	150	(c) 1,800	150	1,800
Average ..	88	2,640	110	2,312	67½	2,212

(a) The Erode single-crop return is probably slightly understated.

(b) The Karúr single-crop return is certainly understated; one ryot in 1880-81 stated the yield of a káñi (1·32 acres) at 1,700 Madras measures = 1,275 per acre; this was, however, a bumper crop. The Canvey-watered lands in Karúr are worth from 400 to 1,000 rupees per acre and are rented to Pallars at from 1,350 to 2,700 lb. of paddy per acre per year, the tenant paying all cultivation expenses and the landowner the Government assessment.

(c) The Udamalpet yield is much understated; the irrigation is the best on the Annamalai. The single-crop yield has not been enquired into.

The following interesting details have been given by a respectable ryot who personally farms 3 acres of good wet land near Erode under the Kalingaráyan channel:—

Nature.	Expenses per crop.		Receipts.		Profit.
	Quantity.	Value.	Quantity.	Value.	
Ploughing .. ..	....	Rs. 6 0	10 sellagaya (2,400 lb.) of grain.	Rs. 40	Rs. ..
Green-manuring ..	50 head-heads ..	4 0	..	..	..
Seed	85—120 lb. ..	3 0	Straw ..	7	..
Transplanting ..	20 labourers ..	2 8	....	..	..
Weeding, reaping, and head-threshing ..	14 do. ..	1 13	....	..	..
Bullock-threshing ..	....	0 12	....	..	..
Total ..	....	18 0	....	47	29

The above is for a single crop; for two crops the profit will be Rs. 58. The Government assessment with road-cess and irrigation-cess is about Rs. 18, so that the net profit for two crops is Rs. 40. If the ryot lets out the land he will get ten sellagaya of paddy per acre for the year, value Rs. 40, out of which he pays the assessment. On the best Kalingaráyan wet lands Pallars often give a rent of three-

fourths of the grain, retaining one-fourth for themselves and the whole of the straw, while the owner pays the assessment. It is said that the straw pays them for the cost of cultivation, they themselves doing the whole of the labour required.

Gardens.—The outturn on garden lands is very considerable, and crop for crop is four or five times that of the average of dry lands, other than black cotton, at all events over a series of years, if not in ordinary years. It is to be remembered that in about two out of five years dry crops are extremely scanty, whereas since wells seldom fail except in very bad years, and then probably only for one crop, the ryot usually gets a good outturn. Further, most of his manure goes to his garden, which occupies his most devoted attention; this is another source of abundance. Again, these soils are usually the choicest of all, lying in bottoms which have received the wash of the uplands. Further, taking money-value into consideration, the garden produce fetches more than even an equivalent quantity of dry-land produce, since the cereals and pulses are usually of better quality, and to this it may be added that crops are produced, such as tobacco, chillies, wheat, turmeric and so forth, which will not grow on dry lands. Finally, a garden will produce regularly two and even three crops per year, or five in two years, whereas but few lands, black cotton lands included—and those but very seldom—can possibly produce two crops. The money produce of garden land compared with that of dry over a series of years is at least five to one, and this is corroborated by the old garden rates, which were based originally upon a share of the crop. The following table abstracts the produce of the chief crops on garden lands. Maximum yields are given; average yields one-third or one-fourth below maximum:—

Crop.	Seed in pounds. (average).	Outturn in pounds.	Rupees.
Paddy (Kharif)	100	3,000—4,300	80—85
Chulam	10	2,080	32
Kambu		2,440	32
Ragi		2,520	28
Therai		2,440	32
Wheat (in kush)	90	2,000	50
Tobacco .. .. .	..	1,800	100
Turmeric .. .. .	..	3,000—6,000	120—200
Sweet potato .. .. .	..	....	70—100
Yams .. .. .	..	6,250	180
Betel leaf (see "Betel") in 2 years .. .. .	..	....	450
Onions .. .. .	..	....	...
Chillies .. .. .	..	3,000—4,000 pakka measures.	60—80

Punjab.—To gauge the outturn on these lands is a matter of great difficulty; every field differs in every year, according to soil, ryot, season, &c. In considering outturns it is to be remembered that pulses are almost always grown with kambu and are expected to pay the kist, and that non-annual cotton is grown along with kambu and remains as

a young crop after the kambu is removed. Similarly cholam, gingelly, dhol, and castor are grown together, samei and dhol and so forth. Hence the yield of a crop is usually not the total yield of the field. Moreover, on the black soils and better red soils, especially near hills, two crops are often grown, e.g., cholam followed by cotton, or cholam or gingelly with dhol followed by gram. The outturns are only stated for a few crops, and will be found in the respective notices. On all lands the value of the straw is very considerable, and on an average may usually be taken to balance the maintenance of the plough bullocks.

Cost of Cultivation.—This is a matter of greater difficulty than the preceding, owing to the impossibility of assessing the cost of labour. In most cases the ryot does most of the labour with his own family; using his own cattle for ploughing and watering, and his own beasts and sheep for manuring. A ryot on being asked why he married a second wife, said that he wanted another field hand, and this is a fair example. This part of the expenses it is difficult to estimate. The interest on capital sunk in improvements, or in manure, which will last for several crops, is another item, and the whole is complicated by the occasional or frequent use of hired labour, according to circumstances. A proverb says, "If you count up the cost the balance will be nil" (எழுதவல் கணக்குப்பார்த்தால் எழுவுதோல் கூட மிச்சமிடில்லை).²⁰ Similarly, if the various items of labour be priced in money, and that of his cattle charged at hiring rates, and the cost of manure added, it is often easy to show that cultivation is carried on at a loss, or at very small profits, or with a very slight surplus for maintenance, whereas the lands in question may be worth scores and even hundreds of rupees per acre, and are leased in thousands of acres at a rental of several rupees, while the ryots exhibit an aspect of prosperity in houses, cattle, jewels, and social observances. The cost entered in the tables (see Appendix) is based on the supposition that all labour, whether of men or animals, is hired, and is therefore a fictitious entry in so far as that labour is the ryot's own; it is to be understood that whenever, as is usual, a ryot and his family and cattle themselves labour, the real cost is that of the maintenance of the family and cattle, and that the surplus crop is therefore clear profit, and does not go towards maintenance. It will further be remembered that cattle cost practically little beyond that of wear and tear, and of some cotton seed, gram or oil-cake, since the straw of the crop and the grass of the waste land maintain them. The manure is also provided by these cattle and by some sheep and goats, which cost but little to keep and have a good sale-value. These two items ought therefore to be struck out of the table of costs or much reduced.

²⁰ That is, after family expenses are defrayed. This was probably applicable to dry lands, or to wet lands in the "good old days" when former governments took in kind two-thirds, or at least half of the gross outturn, to which the ryots (*see* Buchanan, A.D. 1866) were anxious to return, rather than pay Hyder's assessments ranging up to Rs. 30 per acre (in Satyamangalam) when prices were half of present prices.

The figures are based on special enquiries over several years, upon the settlement figures, and upon the known rates of agricultural wages, which may be assumed at about $1\frac{1}{2}$ annas per day per head, since male labourers are usually hired by the year at 32 to 40 measures of dry grain, and petty allowances per month, while women, who are the casual labourers, are paid 1 anna or $1\frac{1}{2}$ per day. Occasionally as at harvest somewhat higher wages are paid. Near towns labour will be somewhat higher priced. The estimated cost of cultivation is noticed under several of the principal crops in order to explain the data on which the table figures are arrived at.

The Settlement Department, after considerable enquiry, assumed rates for dry and wet lands, according to the following tables, in which the cost of ploughing is merely the depreciation of cattle, and does not include their maintenance; this is provided for by the straw, etc., of the farm, which, on the other hand, finds no place in the settlement estimate of receipts, which takes account only of grain. Interest is also excluded, as the cattle do a good deal of extra work in the off-seasons. Mr. Clogstoun says: "The cost of cultivation determined by me for dry land is, it will be seen, in all but the first rate of assessment greater than the value of half the produce, while the statement appended to paragraph 19, Part I, shows that in the case of at least 123,996 acres,²⁰ the cost of cultivation must be considerably less than half the produce, for half the produce is found to pay for the cost of cultivation and to give a return for capital also."—(Settlement Report, p. 32.) Mr. Clogstoun considered these lands not to be very exceptional, and to represent at least half the area then under report; garden lands were in general excluded.

Class.	Tareen.	Rate of assessment.	Cost.						
			Ploughing cattle.	Implements.	Seed.	Manure.	Labour.	Total.	
Dry land.	1	Rs. A. P. 1 12 0	Rs. A. P. ..	Rs. A. P.	Rs. A. P.	Rs. A. P. 0 8 0	Rs. A. P. 0 8 0	Rs. A. P. 1 4 2	Rs. A. P. 3 6 4
	2	1 8 0	..	0 8 10	0 4 0	0 8 0	1 4 2	3 6 4	
	3	1 4 0	..			0 8 0	1 4 2	3 6 4	
	4	1 0 0	..			0 8 0	1 2 2	3 2 4	
	5	0 12 0	..			0 8 0	1 0 2	2 14 4	
	6	0 8 0	..			0 4 0	1 0 2	2 10 4	
	7	0 6 0	..	..	0 9 2	2 3 4		
Wet land.	1	10 8 0	3 0 0	1 0 0	1 0 0	2 0 0	6 2 10	13 2 10	
	2	9 8 0					6 2 10	12 2 10	
	3	8 0 0					5 2 10	12 2 10	
	4	7 0 0					4 2 10	11 2 10	
	5	6 0 0					4 0 10	10 0 10	
	6	5 0 0	2 0 0	4 0 10	8 0 10				
	7	4 0 0		3 8 10	7 4 10				
	8	3 8 0		2 0 10	4 12 10				
	9	3 0 0		2 0 10	4 12 10				
	10	2 8 0		2 0 10	4 12 10				

²⁰ In the five northern taluks then under report. The table showed the lands situated in those taluks, and will be found *not* cor. "Economic condition."

On this it may be observed that the cost is too high for the poorest classes of dry land; these do not get three ploughings, and seed does not cost more than 3 annas; Rs. 1 to 1-12 would probably be nearer the mark for the last two classes.

The estimate for the first six classes of wet land is certainly below the mark; seed at 30 Madras measures is at least Rs. 1-8; a common allowance for manuring is Rs. 5, four cart-loads of green manure costing from Rs. 6 to 8 being not uncommon, or fifty bundles at $1\frac{1}{2}$ to $1\frac{1}{4}$ annas each. The wet lands of the Karúr and lower Kalingaráyan lands, assessed at Rs. 8, are manured heavily; the labour, moreover, is practically the same on all the classes to No. 6, since these are either channel or river-fed tank lands and are highly cultivated, usually with transplanted paddy; the land being somewhat poorer, and getting less irrigation silt, demands more manure and more labour.

The costs of paddy cultivation, as stated by an Erode ryot, will be found *supra*, *and* *etc.* "Outturn."

The difference between the cost of cultivation and outturn may be estimated by the rates of leases and the sale price of lands; this question will be discussed under "Economical condition."

Diseases.—These are various and will be mentioned under the crops attacked by them; not much is known on the subject.

Crops.—Paddy, rice, (*Nellu*), (*Oryza sativa*).—This is of almost endless variety, but may be roughly divided into three months (kár) and five months (samba) paddy; the former is grown both as a first and second crop, the latter, save very occasionally, only as a second or single crop and in the cold weather. The best known varieties of these two sorts are tabulated below. Dry land paddy is also added, but is rare.

Three months—Kár.	Four to six months—Samba.	Dry land.
Karuvai. Anathánam. Aruvithám-kodei.	Samba. Kalingaráyan samba. Kártigai samba (four months). Molagi or Semmolagi.	Sarasa-velli.

Either variety succeeds ragi or other so-called dry crop, or paddy. The treatment, season, and yield are different in each taluk owing to the variety of water-supply and soil.

Common features are as follows:—

First crop (kár). The ground is prepared in June and July in the usual way by swamping, cross-ploughing several times, green manuring and smoothing with the beam. Seed is generally sown broadcast at the rate of from 24 to 30 Madras measures or from 1 to $1\frac{1}{4}$ bushels per acre; in the fourth week the land is weeded and the plants thinned out if necessary, and bare places planted up. There is no subsequent weeding; water is let on as often as possible, and harvest takes place in September-October. There are occasional exceptions to the rule, *e.g.*, in some lands of Nerúr (Karúr taluk) samba is grown as a first crop from July to

January, being transplanted in the usual way; kuruvei as a second crop, transplanted, from January to May: kuruvei is, in other lands in this village, either sown broadcast or transplanted.

The quantity of seed sown varies greatly according to the ryots, and this point is not clearly made out. In Erode, Karúr and Udamalpet it is represented that sowing in nurseries takes more seed than sowing broadcast, whereas the reverse is said to be the case in other taluks. The estimates of seed everywhere seem excessive, *e.g.*, 30 to 36 measures (84 to 100 lb.) per acre transplanted, and from 24 to 60 measures (68 to 168 lb.) for broadcast sowing. Full inquiry, however, shows that seed is used extravagantly; the nurseries are sown so thickly that much must be wasted, and the seedlings are transplanted in bunches of from four to ten according to size and the quality of the ground. If the soil is rich and the plants good, four or five seedlings will form a bunch and be planted at from 6 to 8 inches apart. It might be ascertained by experiment whether the use of so much seed is needful or useful.

Second-crop paddy (by which is understood a crop following a first crop either of ragi or other dry grain, or of paddy). This may be either kuruvei or samba. With good irrigation, as in Erode, the Cauvery channels of Karúr, and under the Amaravati in the better channels and in good seasons, samba is the rule as a second crop. This is usually transplanted from nurseries prepared in October. After the first crop is reaped in October, the land is again prepared by ploughing, green manuring, treading and levelling, and the seedlings rapidly transplanted in November-December.

There is little difference between the second crop and the single crop paddy either in yield, kind or season; it may be briefly stated that as a rule, except in Satyamangalam, the first crop is a short crop to take advantage of the water and season before the chief crop is grown. The quantity of seed required is said somewhat to exceed that for the first crop.

In certain taluks there are differences both in crop and in practice. In Polláchi, where the south-west monsoon brings considerable rain, and in a few lands in Udamalpet, paddy is grown on dry land, as a first crop. It is sown broadcast in June and reaped in September-October. In Udamalpet the practice is similar to that in Polláchi, but is rare. In Karúr, and occasionally elsewhere, samba and kuruvei paddy are grown in gardens as a cold-weather transplanted crop from November to March; it is watered every day, a quantity equal to about one inch being let on after transplantation, for about ninety days out of four months, allowing for rain and a cessation of ten days before reaping; according to experience, the surface of the soil must always be covered with water. Hence about 7 feet is the quantity raised and used, and about 6 inches falls as rain. The outturn is heavy, probably owing to a good physical condition of the soil, *viz.*, from 3,000 to 4,300 lb. The yield and the quantity of water used are noticeable; the quality is also said to be superior to that of wet land paddy. It is also to be noted

that paddy so cultivated sends down short tap-roots, which are wanting in wet land paddy; this is readily explained by the difference in the condition of the sub-soil (*vide supra*).

For general outturn see *supra*.

The chief pest is an insect called navel-púchi, whitish, and from half to one inch long; it bores into and feeds on the tender plant, which then produces only empty husks.

Cholam (*Sorghum vulgare*).—This is grown either as a garden or dry crop; also frequently on tank-fed lands or as a first crop on poorly-irrigated channel lands. This is a very useful crop, giving a good outturn with a minimum of rainfall or water and labour, as it is said: *QeriuQunñigē Qerpu Qavakennōrenis*, "Cholam is the crop for a lazy man." Its grain is abundant and nutritious, while its stem is excellent fodder for cattle, which eat it readily whether green or dry.

In garden cultivation there are two great seasons and kinds of crop—(1) that cultivated in March and reaped in June-July (hot-weather crop); (2) that sown in October-November and reaped in January and February. It is called a four months crop. The chief varieties are periya-vellei, tovaram, airu-vellei, uppam, karuvettu, sen, ennei-kittán, and kákáyrettu. The first five are usually sown in October-November and reaped in February-March; the latter grow from March-April to July. There are variations, however, in each taluk as to the kinds grown in the two seasons. The soil is manured by cattle and sheep-penning and by village refuse, the manure being well ploughed in when rain falls; seed is then sown broadcast, and ploughed in, after which the plots for watering are formed, but if the soil is fairly moist, it is not irrigated for two or three weeks. After the first watering it is hoed and thereafter watered² about once a week till harvest. Seed per acre is 4 measures = 14 lb., and the outturn up to 4 pothis = 768 measures = 2,660 lb.

This crop, as grown in gardens, is a marked contrast to that on dry lands; even in fairly good years the latter, on soils other than black or new lands, is short (5 to 6 feet high) and with but poor heads, while in less favourable years it is not even 3 or 4 feet high, with stalks as thick as quills and heads as big only as an egg. On gardens it is 8 to 9 feet high, stout, healthy, and with splendid heads full of grain. Such is the effect of regular water and good soil and cultivation. On the higher classed red soils and on black, cholam is however of excellent growth, almost equal to that in gardens, though not grown so densely; in the red soils of Ánaimalai and the neighbourhood, which have been recently reclaimed from the forest and get the south-west monsoon, the crops are of the finest description.

² In all garden cultivation the theoretical number of waterings is stated on the supposition that no rain falls; hence the real number and therefore cost of watering is much less than stated, especially from September to December, as the rain sometimes obviates the need for artificial watering for a month together.

The dry land cholam embraces most of the above varieties and is grown at two seasons, viz., kár, sown in May, June, July, and reaped from three to four months later; and paruvam, sown in October-November and out in February. Seasons differ widely in the various taluks, kár cholam, for instance, being rare in Erode, and common in Karúr and North Dhárápúram. The kár crop is usually mixed with cotton, gingelly, dholl, castor-oil and pulses; the paruvam crop is not mixed. Castor-oil and dholl are sown in lines; other seeds broadcast with the cholam. After sowing, the crop is inter-ploughed when from four to six weeks old. The kár crop is reaped in July or later according to sowing; the dholl is reaped in January and castor beans twice, viz. in November-December and February-March. Cotton remains on the ground for several years, its first crop being in the hot weather about one year after sowing, and thenceforward twice a year about July and February. Cholam is occasionally grown as a fodder crop in the hot weather, especially in the Kángyan division of Dhárápúram; it is grown thickly (adar cholam) and cut down at flowering.

The outturn of cholam on dry land varies immensely from field to field and from year to year; that on the Ánaimalai red soil is equal to any in the Presidency, and that on the black soils is probably nearly equally good, while that on thousands of acres of poor land in Erode and Dhárápúram is hardly worth calling a crop. The following table is taken from the Settlement Report, page 31; the outturn is in Madras measures:—

Soil.		Good.		Middling.		Bad.		Total.	
Class.	Soil.	Kyles.	Average yield.	Kyles.	Average yield.	Kyles.	Average yield.	Kyles.	Average yield.
3	1	..	..	8	272	41	99	49	128
	2	..	..	..	..	7	118	7	118
4	1	2	324	..	..	6	158	8	199
	2	..	..	..	..	19	146	19	146
5	1	..	..	..	..	1	80	1	80
	2	..	..	..	..	2	166	2	166
7	1	13	385	25	276	89	156	129	206
	2	..	..	6	249	45	124	51	139
8	1	..	..	1	240	..	..	1	240
	2	..	..	20	249	75	124	95	169
6	1	1	312	5	234	46	116	51	127
	2	..	..	..	..	8	109	8	109
Total ..		18	374	65	261	230	129	413	181

The years 1872-73 and 1873-74 were said to be poor years, and the rainfall statement bears this out. But out of 413 kyles only 9, or 2·18 per cent., were on classes of land below 7·2 and 8·2, i.e., on the poorest lands in the district, although the assessed area of Government lands under such classes in the five taluks then under report was 523,797 acres, or 40 per cent. of the total Government area. Hence if the settlement gradation is to be accepted as approximately a gauge of the

productive power of the district, the outturn experiments were *pro tanto* insufficient in not taking account of the large area of poor lands, most of which, moreover, were under occupation.

The diseases that attack cholam are sembei and kariputtei, and the insect pests navei-púchi and asugani. Sembei is rust, and is common in cold misty weather. Kariputtei is mildew; it is not known whether this is the developed form of sembei. Instead of grain, the ears are filled with a blackish brown powder-like smut in wheat. Navei-púchi is a light green insect, beginning as a tiny worm (kuruthu-puluvu) which feeds and grows on the tender plant; it develops at the time of flowering if the weather is misty. A similar cause is alleged for asugani (pen or poriyani), which is a minute black insect.

Kambu (*Penicillaria spicata*).—Kambu in garden lands is pretty generally grown, the garden variety being arisi or aruvathám (sixty days) kambu. As a rule it is sown in April and harvested in June-July. It is not much grown in Pollachi and Coimbatore. The seed is about 13 lb, and the maximum outturn 2,440 lb. (4 pothis) or 188 fold. Its cultivation is similar to that of cholam. On dry lands, except black, it is grown throughout the district, the general season being July-August (Ádi), but this varies; in parts it may be seen in ear in August, having been sown in the May rains; at other times or places, it may be seen just sprouting in August if the rains are late. It is not sown as a rule after the middle of September, as the north-east monsoon would be prejudicial, but in parts of Coimbatore taluk and elsewhere it is occasionally sown in November. The understood season is July-August (Ádi-pattam) and it is called a four months' crop. Being the staple crop of the district, upon which both ryots and labourers depend for food, the outturn of this crop is all important. It is, however, a delicate crop, deficient or excessive rain being equally prejudicial, while failure at particular crises, or heavy rain when flowering, is very fatal. A kambu crop is seldom seen good on the low-class dry lands, both stalk and ears being poor. In the sub-division for six years since 1878 there has been no good kambu crop, while in three years it was extremely deficient. Except in a few places, and at particular times, as in Coimbatore taluk in September-October, when grown alone or with thenai and beans, kambu is always grown as a mixed crop with cotton, castor-oil, pulses, and a little pulimani. In the sub-division, especially in the Erode taluk, the cotton is invariably sown in this way; the lines of mochai, castor, etc., are marked features in a kambu field, and it is to these that the ryot looks to pay his kist, while he uses the kambu for his family or his labourers. The plagues of kambu are navei-púchi and asugani, both being insect pests. The former is a large whitish insect, the latter a minute black one (aphis?); these occasionally cause immense loss.

When properly cultivated, the land is ploughed (puluthi) in the April-May rains, after having been manured in the usual way according to the ryot's means; in July-August it is again ploughed, and seed

mixed with various pulses sown broadcast, with dholi or beans in rows a few feet apart. After six weeks the crop is interploughed and occasionally weeded, partly for the sake of the crop, partly for the value of the resulting fodder. In November-December the kambu is reaped by cutting off the ears as they ripen, the harvest in a field thus extending over weeks, as the crop matures in stages according to the nature and condition of the soil, seed, &c. The pulses are gathered gradually up to February, when the stalks of kambu, beans, &c., are all pulled up together, leaving the cotton and castor only; the seeds of the latter are gathered up to March-April, while the cotton gives its first crop in July and thenceforward twice a year.

The practice is the same on all ordinary lands, but manure seldom reaches the dry lands of the poorer ryots except that of the casual droppings of cattle in search of food, and occasional village refuse. These men being also laborers under richer ryots, or castes engaged on other occupations, such as Shánárs, Chucklers, &c., frequently dispense with the kár ploughing and trust to a hurried cultivation, very often at the end of the proper season; hence, especially in a dry year, the wretched crops often seen on the uplands, especially when distant from the houses. The yield on dry land is too varied to give any but an approximate statement; it varies from field to field and from year to year, according to soil, ryot, and season. A pothi = 192 measures = 10 bushels of 57 lb. each of grain in husk, is said to be an average crop on ordinary land, but the crop is often very much less than that, occasionally more. To this must be added the not inconsiderable outturn of pulses, as well as the value of the young cotton as it stands at the kambu harvest. The following table for dry lands only is taken from the Settlement Report, and fairly agrees with the above estimate, which was derived from observation and enquiry only. The two seasons (1873-74) in which the experiments were made are said to have been poor years as regards the quantity of rain. The yield is in Madras measures each holding 3 lb. of kambu in husk.

Soil.		Crop.							
		Good.		Middling.		Bad.		Total.	
		Kyles.	Average yield.	Kyles.	Average yield.	Kyles.	Average yield.	Kyles.	Average yield.
3	1	1	304	..	..	..	..	1	304
	1	3	304	9	120	3	123	15	181
4	2	..	..	2	254	11	126	13	146
	1	..	..	..	..	13	142	13	142
5	2	..	..	..	..	..	..	..	..
	1	30	363	32	249	67	112	129	205
7	2	9	421	11	247	47	133	67	181
	3	..	..	..	..	2	184	2	184
	1	82	421	184	247	239	138	503	223
8	2	18	396	32	237	173	123	224	162
	3	..	..	..	..	3	100	6	100
Total ..		143	404	263	242	560	136	971	201

It will be remembered that 85 per cent. of the lands in this district are those classed as 7 and 8, that 40 per cent. of the taluks inspected by Mr. Clogstoun were below 7-2 and 8-2, and that Mr. Wedderburn's deliberate opinion was that a good crop was the exception and half and one-fourth crop the rule, by which he probably meant that, taking all seasons and all lands, 4 annas to 8 annas of a bumper crop (= 16 annas) would be a fair average for the whole district. In bad years therefore the ryots probably get less than the settlement outturn, in moderate years an outturn equal to that in the table, and in exceptionally good years, that is once in thirty years (Mr. Grant), perhaps half as much again, with double the amount on very good lands. The kyles on lands below 7-2 and 8-2 were only 7 out of 971, on which see remarks on cholam *supra*.

Ragi (*Eleusine coracana*).—Ragi is grown as a wet, garden, and dry crop. The first crop under the lower Amarávati channels is usually ragi; it is sown in nurseries and transplanted at a few weeks old to the fields. It is, however, best known as a garden crop, sown generally in Áni (June or July), but with exceptions in various localities; in some places it is a cold-weather, and occasionally, as in Polláchi, a hot-weather crop. It is usually transplanted from nurseries, but as in parts of Polláchi, Udamalpet and Dhárápura, it is sometimes sown broadcast in the beds. It is called a four months' crop and will produce up to 2,520 lb. (4 pothis) per acre. Velloi and karu-mattu are the usual varieties. Castor is often sown with it in rows and produces splendidly by reason of the water and manure. As a dry land crop ragi is rare; it is then grown chiefly near the hills, where rain is more abundant and the soil is better, as in Polláchi, Udamalpet and Bhaváni.²² The land is well prepared by ploughing and manuring, the seed sown broadcast with lines of castor, dholl, etc., in furrows at 10 or 12 feet apart; at about a month old it is interploughed and weeded. In Polláchi it is sown in May, in Coimbatore, Udamalpet and Bhaváni in July. The ragi is harvested about four months later and the dholl a month or two afterwards.

This cereal is very nutritious and strengthening, and it is unfortunate that the climate and soil do not permit of its growth except in gardens and hill tracts. Its fodder is also excellent and abundant; the proverb says: "A regiment for men, and ragi for straw."

Threshing is performed only after it has been heaped to sweat, when the grain becomes looser in the husk, and is easily trodden out. It is reaped by cutting off the ears as they ripen, leaving the straw standing till it is removed bodily and stacked. The average dry land outturn is somewhat better than that of kambu, as it is only grown in favourable localities. The settlement kyles on dry land are as follow in terms of Madras measures of 3 lb. each:—

²² Cf. the proverb "Get wet land near the sluice, dry land near the hills." The taluks away from the hills are well known to get but scanty rain.

Good.		Middling.		Bad.		Total.	
Number of kyles.	Average outturn.	Kyles.	Average outturn.	Kyles.	Average outturn.	Kyles.	Average outturn.
30	423	26	255	100	148	156	217

The diseases that attack ragi are sunnámbu (kolli-karikki-nóvu) and sembei. The former appears as a whitish powder at the top of the leaf stalks when ragi on dry land is in want of rain. A fall of rain will cure the disease, but should there be none the crop will come to nothing. Sembei is rust and is due to excessive moisture, probably in undrained low lands, and especially in cloudy weather. Insects also attack the young leaf blades and ruin the crop.

Tenei (*Panicum Italicum*).—Tenei is grown almost entirely as a garden crop, and its cultivation is similar in kind and season to that of ragi, but it is not sown in nurseries. It is rarely grown as a dry crop except in Karúr, and November-December is the best season for sowing a garden crop and July-August for a dry crop. For some reason it is not a favourite crop, and is believed to injure or exhaust the soil; தீசை விதைத்தல் தீசை விளைவு, “If²³ millet be sown, mischief will be the crop.” There are three kinds, viz., sen, vellei and karum, of which vellei is either sadei or kosu, the former being the bigger.

Varagu (*Panicum miliaceum*).—Varagu is rare, whether as a garden or dry crop; it requires less water than most crops, but the grain in yield and quality is poor. As a dry crop it seems to be grown only in Polláchi, Udamalpet, and Coimbatore taluks. It requires little rain or water, and produces fairly; but it is apt to become poisonous, especially when new or cultivated repeatedly on the same land; (cf. so-called cholera produced by eating varagu-arisi in Madura). There are four kinds: pani, vellei, karum, and mauli varagu; it is sown in gardens at any time, usually September; in dry lands generally in July-August.

Sámei (*Panicum miliare*).—Sámei is grown mainly as a dry crop. The chief season for sowing it is August-September; but in Polláchi, May and June are the usual months.

It is sometimes grown alone, but usually mixed with red gram and dholi; the sáméi is then reaped in November-December, the red gram in January, and the dholi in February. The usual soil is a red gravel. Pillu-sámei is a variety of which the grain is very delicate and much sought after; it is said to equal the best rice in delicacy, while it has more flavour. The usual varieties are aruvathám (a sixty days crop), vellei, karum, kulei, pillu, and margilam, which are three months' crops.

²³ Is this based on fact, or is it an imperfect recollection of the proverb தீசை விதைத்தவர் தீசை அறுப்பான் தீசை விதைத்தவர் தீசை அறுப்பான், “What a man sows, be it millet or mischief, that shall he reap?”

The crop is weeded, but not interploughed, about four weeks after sowing. The maximum yield is said to be 400 measures for a garden crop, and somewhat less for a dry crop; only two or three waterings are required; when grown in gardens manure is freely applied. Pillu-sámei only grows about $1\frac{1}{2}$ or 2 feet high; the straw is excellent for cattle; other varieties grow to double that height and yield more heavily.

Wheat (*Kothumel*), (*Triticum spelta*).—This is only grown as a garden crop, and practically only in Coimbatore and the adjoining borders of Palladam; it is sown in October-November and reaped in February-March. It is grown with skill and care, as are all garden crops; the land is well manured and ploughed, the crop twice weeded, and watered nominally about eighteen or twenty times during the four months. The outturn used to be seriously under-estimated at 400 lb. per acre; but actual experiments in the Collector's cutocherry compound, corrected by the statements of well-to-do ryots, yielded 1,900 lb. and 1,400 lb. of wheat in husk and clean wheat respectively.³⁴ This is a fair yield, viz., 22 bushels of clean wheat; 18 sellagays, equal to 27 bushels of clean wheat, are stated by ryots as a maximum. Probably even better yields could be got with a better wheat. The value, at 25 lb. clean wheat per rupee, is Rs. 56.

The wheat is the common *Triticum spelta*. It is said that in Palladam taluk it used to be sown broadcast, mixed with cotton, on dry land in October; but it has been discontinued for reasons unknown. At the present cost of garden cultivation, Coimbatore wheat is not likely to be an article of export, but if it would grow on the various wet lands, supposing them to be first drained, an enormous addition to the food supply of the district would be possible. A first crop of ragi in the south-west monsoon, followed by wheat instead of samba paddy as a cold-weather crop, might be very successful; and 1,500 lb. of clean wheat would feed far more than 1,500 lb. of rice, and be rather more valuable in silver.

The seed is stated at 30 measures, or about 90 lb. Considering that 14 lb. are enough for cholam, ragi and kambu, and that wheat, if allowed, tillers extraordinarily, the quantity is incomprehensible.

Pulses.—Except horse-gram and Bengal-gram, these are generally grown as mixed crops, in lines with other crops, chiefly kambu, cholam

³⁴ The figures as to wheat outturn may serve as a gauge for other official statistics which depend on anything except careful observation. The 400 lb. outturn was the result of taking untested the interested or ignorant statements of Karmas. Wheat was grown for a series of years on several acres of the Collector's office garden, and on ascertaining the real yield, certain respectable ryots and practical gentlemen who had gardens were consulted, with the results stated. No special cultivation was adopted in the Collector's office garden which was simply let out to an ordinary ryot; the statements by native gentlemen and ryots gave even a higher outturn. It may here be noted that there is no reluctance on the part of native gentlemen to afford any agricultural information, and that it may be depended on; information from these is worth hundreds of ordinary returns from Talukdars, who have often neither time, knowledge, nor aptitude for such enquiries, or of statements of mere ryots, who are suspicious and ignorant.

and cotton. As stated under kambu, red-gram and green-gram are sown broadcast, and mochei (avarei) in furrows a few feet apart with the kambu crop in July-August, and are gathered from November to February. Dhoil is sown in lines, either with gingelly and cotton, in the kār rains, or with sāmei, cotton, etc., in the south-west monsoon; it is usually gathered in February.

Bengal-gram (*Kadales*), (*Cicer arietinum*).—Bengal-gram is grown usually on black cotton soil, and is hardly to be seen in the sub-division, which has none; it is either a mixed or separate crop; in the former case it is sown with cotton and coriander; when alone it is sown in lines about a span apart on well-ploughed and well-manured land. In any case, it is sown only in lines, and hoed at three or four weeks old. A crop once in seven years is sufficiently often. It requires very little rain after once sprouting, the dews of the cold weather being almost sufficient to bring it to maturity. The yield is said to be up to 1,300 lb. It is liable to attacks by an insect called kei-puluvu at the time of flowering if the weather be cloudy and misty.

Red-gram (*Nari-payir*), (*Phaseolus trilobatus*).—This is usually grown as a mixed crop; it is sown chiefly for cattle.

Horse-gram (*Kollu*).—Horse-gram is a crop that has always been grown as a stand by, either to pay the assessment, or to get something in bad or late seasons. It was specially permitted in former days, on gram cowle tenure, when ryots were allowed to break up waste lands for gram at about one-fourth of the usual rate. It grows on the poorest soils,²⁵ with the least possible trouble, and with the minimum of rainfall. Gram land is seldom manured otherwise than by casual droppings of cattle; they are usually ploughed, sown, and the seed covered by a second ploughing, if there be time, but if not, the seed is simply scattered broadcast over the natural surface and then ploughed in. As it requires only one good rain after appearing above ground, it frequently gives a fair crop when nothing else can live. When the south-west monsoon rains are too late for kambu, it is frequently sown as a substitute in September, but it is also sown largely in November, after the first burst of the north-east monsoon. It is pulled up by the roots, thrown into a heap, and then trodden out by cattle. The yield is up to 320 measures, or about 1,200 lb.

Black-gram (*Phaseolus Roxburghii*) is grown either on garden or dry lands, as a separate crop, in August-September, and harvested in

²⁵ The class of land for gram is indicated by the following proverbs:—சல்லுமிதக்க இடக்காடு கொஞ்சுமிதக்க கல்சாக்காடு, "Black soil for gingelly and high land for gram;" கல்லிப் பிதட்டி கொஞ்சுமிதக்க, "Turn over the stones and sow gram." Possibly this land is chosen for gram because it is hardy. The reason for sowing is September-October; but it is sometimes sown later in spite of the proverb காத்திசைமொத்தில் கலக்கொஞ்சு மிதத்தாலும் மொறக்கொஞ்சு விடையாது, "A kallam (36 Madras measures) of gram sown in Kārttigai (November-December) will not yield a move full."

December-January. Sheep manure is used, the soil well ploughed, and the crop weeded by hand after about six weeks. Three sellagays (= 700 lb.) is the highest yield.

The other pulses are green-gram and mochei (avarei), the cultivation of which has already been mentioned.

Pulses generally are liable to insect pests, chiefly aphides and maggots, and especially in times of deficient rain or cloudy weather. Dholl dislikes rain after flowering, as it is then attacked by maggots. The pods of avarei are especially liable to similar attacks.

Seeds.—Cummin seeds (*Scoragum*), (*Cuminum cyminum*).—This valuable crop is chiefly grown in Udamalpet and its borders; it is a two-months' garden crop and requires much care, being especially subject to disease, especially in cloudy or misty weather.

The beginning of the south-west and the end of the north-east monsoons, the former for preference, are the seasons for sowing. The waterings are once in four or five days, and the outturn up to 750 lb. The chief care is to plough and manure thoroughly, cover the seed lightly, weed frequently and water lightly. The diseases are manjanóvu and kolli or sám-bal-nóvu; in the former the plant fades and the leaves shrivel up; in the latter it turns ash colour in misty weather.

Fenugreek (*Venthiam*), (*Trigonella Fenum Græcum*).—Fenugreek, chiefly found in Coimbatore, Udamalpet and Palladam taluks, is grown similarly to cummin seed, but is a three months' crop. It is attacked by the same pests as cummin.

Ground-nut (*Nila-kudalei*), (*Arachis hypogæa*).—Ground-nut is only grown in Karúr taluk, chiefly on the wet lands at the tail of the Pallapalaiyam channel, close to Karúr town; it is usually grown as a mixed crop with ragi. Three or four days after the ragi is transplanted in July, at 6 inches apart, ground-nuts are planted between the seedlings; in September-October the ragi is reaped, and the ground-nut is dug up in February-March. When grown alone, the treatment is not materially different. The crop is generally sent to Kárikal and Pondicherry for export in bulk; this is greatly to be regretted, as the cake is of great feeding value. A good oil mill at Karúr, for ground-nut and gingelly, would probably be very successful as a commercial venture, especially if combined with inducements to the ryots to cultivate more largely. The amount required of seed in husk is 8 or 9 vallams (16 or 18 measures) per acre, and the outturn averages above 1,050 vallams, worth Rs. 48 at the usual price of about 22 vallams per rupee. Each vallam of nut in husk weighs 2½ lb., and cleans into 2 lb., so that the net outturn in clean nut is about one ton, which should yield, say, 650 lb. of oil.

Gingelly (*Ellu*), (*Sesamum Indicum*).—Gingelly is universally grown, both on wet, garden, and dry land; if the former, it is usually before the regular crop, as in Erode; or after it, as in Dhárápúram.

In Erode it may be seen at the tail of the Kalingaráyan between June and September; in Dhárápúram it is grown often as a third crop

in April and May; the usual succession is then ragi from June to September-October, paddy from October to February, gingelly from March to June. In some taluks it is also grown as a garden crop. On wet lands the moisture from the preceding crop is usually sufficient to start it, and the probable rains of April and May mature it; it is, of course, somewhat uncertain. It is less so when grown from June onward; on dry lands it is grown with the kár rains in the Kángyam division of Dhárápúram, sown broadcast with cholam and with dhol in lines; in Karúr it is grown on the uplands with the rains of the south-west monsoon, and is also sown mixed with kambu and with cotton in July, and is reaped in November-December; it is also grown as a separate crop. There are two sorts, kár and tattú, of which the former is the better, and is grown in the hot weather; on garden lands it is sown on land prepared as usual and watered; the young crop is not watered for about fifteen or twenty days, and thereafter, if there is no rain, only once in ten or fifteen days; water is stopped fifteen days before pulling. The plants, when pulled, are stacked for a week, and the seed is then shaken from the pods and winnowed.

The seed is about 10 measures, and the yield from 150 to 350 or 400 measures. Its value is Rs. 15 to 35 or 40.

As will be seen, it is a very easy crop to grow, and requires little rain or water; hence probably the proverb "Sow gingelly and cotton gladly" (சாகியும் வெள்ளையும் சூடுத்பயிசிடு), or இவ்வந்தயம் ஏழு வருஷம் தடுத்தே மட்டும்கொடுக்கவேண்டும், "A poor man should sow gingelly for 7 years," as returns are easy and quick. For the outturn of oil see "Industries" and "Oils."

Coriander (*Kothumalli*), (*Coriandrum sativum*).—Coriander is grown only on black soil in the three black soil taluks: it is mixed with upпам cotton, and sown broadcast in October and reaped in January; occasionally it is grown as a garden crop from June to September, watering once a week being sufficient. The seed is about 10 to 12 lb., and the outturn is said to be only 288. As a dry crop the outturn is somewhat less, but is supposed to pay the cost of the cotton cultivation.

Castor (*Kottei-muttu*), (*Ricinus communis*).—This is an important article, and, with the pulses, is looked to for paying the kist. It is usually grown on dry lands, but is often found in a garden where ragi and castor are grown together as a cold-weather crop, the ragi being reaped in January and the castor in February-March, or where it is grown as a shade for turmeric. The castor plants in such cases assume the size of small trees of some 15 feet in height, with splendid clusters of seeds a cubit long. It is not a perennial as in colder climates, e.g., the Shevaroy; but will last two or more years if watered. It will give a crop in years of poor rainfall when cereals fail, but with abundant water it yields heavily. Except in the Polláchi taluk, it is seldom grown alone, but generally in lines as a mixed crop with cereals and pulses. It is especially grown with kambu in July,

and gathered in February, but is also, *e.g.*, in North Dhārāpuram, grown in the other seasons, such as April, with cholam, gingelly and dholl, and the seeds gathered once in September and again in February. In Pollāchi it is sometimes sown as a separate crop in May, and the crop gathered first in September and again in February; in this case it is frequently interploughed; occasionally, as in Coimbatore, it is sown in lines with cholam and pulses in September-October. It is found useful as a shade for such crops as turmeric. See "Oils."

Green Crops.—Tobacco (*Pugeigiles*), (*Nicotiana tabacum*).—Tobacco is grown extensively in all taluks; it is solely a cold-weather crop, being generally sown (in nurseries) in September-October, transplanted in November-December, and cut down in February-March, being a six months' crop. It is more abundant in the taluks south of the Nōyil, possibly because the soil is more calcareous and the water more brackish than in the other taluks; it is certain that gardens with wells in the kankar and with brackish water give a larger yield of tobacco; the brackishness is due both to potash and soda, earth-salt and saltpetre being procurable almost everywhere. An analysis of Coimbatore tobacco by the Government Quinologist is appended, by which the large amount of potash in some specimens is apparent:

No.	Place of growth	Per cent. of ash.	Per cent. of carbonate of potash in ash.	Per cent. of nicotine.
1	Coimbatore	22.856	2.94	3.32
2	Do.	22.606	3.64	4.95
3	Do.	19.923	7.92	4.00
4	Pollāchi	24.987	4.39	1.96
5	Mukkōluputhūr	25.73	7.67	2.34
6	Kurichi	26.39	7.93	1.17
7	Pāndurēi Sēmūr	23.34	2.65	1.29
8	Avai Pāndurēi	23.49	19.57	1.46
9	Mānikampālaiyām	26.85	3.61	2.95
10	Mādhalī	23.45	5.33	2.32
11	Satyamangalam (A)	17.09	14.74	2.88
12	Do. (B)	21.34	8.67	3.74
13	Do. (C)	35.14	9.14	3.02

The small percentage of nicotine and large percentage of carbonate of potash are noteworthy, especially in the Erode taluk, specimens 5 to 8; the flavour was also considered very good. Mr. Broughton further considered that the Manilla variety "if it had been cured with care by a European or instructed native, would have possessed the high qualities of foreign Manilla tobacco." These Havanna and Manilla varieties were grown on red soil in Erode taluk. The best tobaccos are those from Erode, Coimbatore and Satyamangalam; that of the southern taluks is coarser and stronger; the red soils are also preferred to the black. On three specimens received from Satyamangalam Mr. Broughton pronounced that they were of good quality, and the best received from

Coimbatore, and considered that that taluk would suit foreign tobaccos (Board's Proceedings, 3704, dated 28th August 1871). In 1872 he stated that the foreign Havanna and Manilla tobaccos grown in Perandurei (Erode) taluk "were decidedly of good quality" and the best yet received. As usual, carbonate of potash was high (6 to 10 per cent.) and nicotine low (2½ per cent.). Mr. Broughton considered that these specimens showed that foreign tobaccos could be produced in South India of their foreign quality, and that good curing would have given the Manilla tobacco "the high qualities of foreign Manilla tobacco." The soil was apparently red loam; the manuring ordinary (Board's Proceedings, 1772, dated 5th September 1872). The best indigenous varieties are yeramei-kappal, vattakappal, úsi-kappal, válei-kappal, and samathádu-kappal, in the order given. The meaning of these names is not apparent. The best outturn per acre is 4 candies, or 2,000 lb. worth from Rs. 80 to 120; the average outturn in ordinary years is probably below half of this. There is evidently a great field for the skilled curer and manufacturer, and the ryot would grow tobacco to any extent on the numerous gardens, say of Erode, if encouraged by a proper agency.

The diseases which attack tobacco are:—(1) *kélán*, (2) *sámbal* or *sambavi*, (3) *poriyán* (*aliter*, *asugani* or *pén*), (4) *murugan* or *murulei*, and (5) *pachohai-puluva*. No. 1 is a parasitic growth (*Bodu*, *Philippia Indica*) like the spadix of a cocoanut, springing from the roots of the plant, and is said to be due to insufficient irrigation, especially at the time of topping. It is also said to arise from ploughing while the land is dry.³⁰ No. 2, which is very destructive, appears when the weather is cloudy and misty, especially at the time of topping, or if the east wind then prevails; the leaves turn ash colour, and brittle, and become unfit for use. No. 3 is also due to the east wind, especially if the ground is water-logged; it shows itself in minute black spots over the whole leaf and stem. No. 4 is very destructive, and is also due to the east wind: the symptoms are a sickly look, roughness of the leaves, and brownish yellow spots. No. 5 is an insect pest.

The nurseries are prepared as follows:—The soil is liberally manured by folding sheep on it, then ploughed, formed into beds, and ashes and decayed vegetable matter spread over it; then watered and allowed to stand. A few days afterwards it is weeded, sown with seed which has been steeped and moistened for four or five days, and again watered daily for the first week, every other day for the second week, and twice a week thereafter till transplanted. At six weeks or two months old (November–December) they are transplanted into well-prepared soil, formed into beds by ridges, into the sides of which the seedlings are dibbled, and thereafter watered twice a week. They are hooded three or four times in the first three months after sowing; they are topped at the end of the third,

³⁰ The remedy is to remove the parasite before it seeds; this is a matter of much ease in the *peru* culture of Coimbatore.

suckered four times during the fourth and fifth, and cut down in the sixth month. It is usual to leave them on the field the first night after cutting; they are then heaped for two days, and on the third are hung up to dry for twelve or fifteen days. After that they are heaped to sweat for some days, the heaps being shifted occasionally, and weights placed upon them. Subsequently they are bundled, each bundle being a convenient handful, again heaped, and the bundles constantly shifted thereafter till sold.

Much of the tobacco is exported to the West Coast, as in the days of the monopoly. Malabar and Travancore, where it is almost a necessity, are mainly supplied with this tobacco. Some is sent to Trichinopoly for the manufacture of cheroots.

The area cultivated in 1291 was 19,810 acres, and the outturn may be put at 15,000,000 lb. of dry leaf. It is sold in the weekly markets in vast quantities at one to two annas per pound; a factory, say at Erode, Dhárápúram, Udumalpet, or Coimbatore, might do a good business.

Chillies (*Mollaghar*). (*Capicum annuum*).—Chillies are largely grown, especially in Erode, Dhárápúram and Polláchi, those of the last taluk being superior to any others. Nurseries are prepared at the beginning of the south-west monsoon, as for tobacco, salt-earth being occasionally added as a manure; the seedlings do not require so much water as tobacco, but are irrigated every second day. After six weeks they are removed, planted about 2 feet apart in the garden beds, which have been carefully manured with dung and ashes or decayed vegetable matter, and repeatedly ploughed; weeding and hoeing take place about once a fortnight till flowering, and watering once in four or five days. The pods are gathered about once or twice a month, from November to April, and yield from 15 to 20 pothis or about 3,000 to 4,000 measures per acre. The Polláchi practice slightly differs, the season for transplanting from the nurseries being the beginning of the south-west monsoon, as the abundant moisture saves watering. The yield is from 15 to 20 pothis, or 2,880 and 3,840 local measures. Chillies are largely exported from Erode.

The chief diseases are "murulei" and "asugaul" (pén); the former is due to want of rain or water, and appears as a fungoid disease in reddish-yellow spots; the latter appears as minute black insects (aphides).

Turmeric (*Manjal*). (*Curcuma longa*).—Turmeric is a most valuable crop: it is found chiefly in Erode, Karár, and Udumalpet. It is best grown in gardens watered by baling from a channel or other plentiful source; otherwise a high, well-drained paddy land; it cannot grow on low-lying, undrained fields, in which the sub-soil is waterlogged. It is usually grown as a mixed crop with yams, maize, castor, brinjal, bendikáy, agathi, onions, and pulimanji. The soil is thoroughly prepared by repeated ploughing and heavy manuring.

municipal sweepings and ashes being a favourite manure in the Erode gardens. In June or July, the soil having been ridged up about 2 feet apart, the rhizomes are planted, a cubit or less from one another, on the ridges, and thereafter watered every three or four days until the end of December; thenceforward somewhat less often till March and April, when they are dug up. The crop is hoed and weeded several times in the first four months. The other crops are variously planted; the onions on the sides of the ridges, the others in lines around and through the area, so as to define, shade, and in some sort protect the crop. The yield of these crops, owing to the rich soil and plentiful watering, is very heavy; a single stem of *Hibiscus cannabinus*, ordinarily 8 feet high, will grow to 16 or 17 feet, and will yield 1 ounce of clean fibre instead of one-sixth as usual. The vegetables are plucked by November, but the agathi and castor are left to give shade. The roots are carefully sized and separately boiled in a mixture of cow-dung and water, dried and sent to market. The above is the practice in Erode gardens; on the wet lands of Karúr and Udamalpet the practice is slightly different, and water is only required once a week; it is not grown oftener than once in three years, and is followed by ragi and paddy. The seed required is from 500 to 800 measures, and the outturn of prepared turmeric from 3,000 lb. to 5,000 lb.; value to the ryot, Rs. 120 to 200. To this must be added the value of the other crops, which is very considerable: yams (sepa-kilangu, *Caladium nymphaeifolium*) will yield 250 maunds of 25 lb. each, worth 12 annas per maund. Probably when these two crops are grown together the yield of each is much less.

The expenses of cultivation, if the labour be charged for as hired, will be something as follows:—

	rs.
Manure	10
Six ploughings	3
Ridging and sowing	3
Hoing and weeding	14
Fifty waterings, allowing for rainfall (gardens only).	40
Digging out	6
Sizing and preparing	14
Seed cuttings	25
Assessment	1½
Total ..	116½

When grown on wet land, the assessment is usually Rs. 6 or 8, as it is grown on the higher lands of a sandy loam character, which are seldom charged higher than stated; in this case, the heavy charge for watering is eliminated. The yield on gardens is probably better than on wet lands, both in quantity and quality. That the statistics are not exaggerated is known by various leases; in a recent Karúr rent suit the area of the land was 90 cents (say, an acre), the crop turmeric, the rent

paid by the tenant for the use of the land for this one crop was Rs. 75, and the Government assessment Rs. 6. The landowner, who pays the assessment, thus cleared Rs. 69 by simply letting out his acre of land, and the tenant was able to make a profit after paying this immense rent and the whole costs of cultivation. As he probably cultivated the land himself, the actual cost to him was little besides manure and seed; but the value of the crop could not have been much under Rs. 150, and was possibly more. In Erode, the gardens irrigated by baling from the channel are sometimes let at Rs. 40 per acre for the year; the assessment is Rs. 1-8 and the water-rate Rs. 4-8. Being a nine or ten months' crop, no other separate crop is possible in the year. The crop requires skill, patience, labour and capital; otherwise it would be more cultivated.

Onions (*Ira-vengdyam*), (*Allium cepa*).—Onions are a garden crop, grown either separately, or mixed with chillies, garlic, or turmeric. They are planted either in June or July, or in November to January, and take three or four months to grow. The soil is ploughed several times, formed into beds or ridged, and the bulbs planted on the ridges, which is the preferable mode; two waterings are given per week, and two hoeings in the first month are found to be sufficient as a rule.

Garlic (*Vellai-piandu* or *Vellai-vengdyam*), (*Allium sativum*).—Garlic is chiefly grown in Udamalpet. The bulbs (paruppu) are usually sown in beds with a hoe, and the crop gets about thirty-two waterings at from once in two days to once a week during its four months of growth. If planted in May-June and dug out in September, it is followed by a tobacco crop; if sown in December and gathered in March, by a cholam crop. The manures used are cattle and sheep dung and ashes or rotten vegetable matter, thoroughly ploughed into the soil; 120 measures of bulbs are sown and the outturn is sixteen-fold.

Sweet-potato (*Sakkari Vellei-kelangu*).—Sweet potatoes, white and red varieties, are grown in gardens, the cuttings being planted from September to December and the roots dug out from January to March. The land is well ploughed, manured and ridged; the cuttings, which are from creepers planted in a nursery a month previously, and are a foot long, are planted on the sides of the ridges. Watering is every three or four days, and weeding only once or so, as the creepers cover the ground. It is said that manure is not applied, as the crop always follows a heavily-manured regi crop. The outturn is valued at from Rs. 70 to 100, and the expenses of cultivation at from Rs. 30 to 40, of which the watering is a nominal half. A garden land of 1-35 acres has been known to let to a tenant for Rs. 70 per annum, one of the crops being sweet-potato. The value of the outturn of sweet potato was put at Rs. 130. The Government assessment on 1-35 acres would be Rs. 2, and water-rate Rs. 4-8 if water was baled from a channel; if from a well, of course there is no water-rate.

Plantains (*Vábi*), (*Musa paradisiaca*).—Plantains are largely grown on the wet lands of Erode and Karúr, and to a less extent elsewhere;

also in gardens in some villages, especially in Erode and Palladam taluks. In the Púgalúr village of Karúr taluk about 600 acres of plantains are annually cultivated, the produce largely going to the Madras market. In Karúr, December and June are the usual planting months, the former being the better; in Erode, October, January and April are the months, October being the best.

The general practice in Erode wet lands is to plough the land thoroughly, dig pits one foot cube at 10 to 12 feet apart, wherein are buried the shoots, sometimes with a little manure around them. Ditches or open drains a cubit wide and deep are then dug to drain off the superfluous water, plantains requiring a deep, porous, well-drained soil. Watering is effected by stopping up the drains at the outlet; after the whole ground is covered, water is allowed to soak in for a day and the outlets are then opened. This takes place once a month or thereabouts. It is to be remembered that this is on wet land, usually close to the channel or amidst other wet lands. The land is hoed once a month, and at the end of three months a manure of wild indigo and dung is applied and hoed in. Hoeing is stopped at flowering, but again begins after the first crop, which is at the end of the first year. This is one of the chief items of plantain cultivation, and is considered most important, as recited in the proverb, “காழைக்கு ஓசைத் தர வேண்டும்,” “The hoe for plantains and water for brinjals.” The crop stands from three to four years, the latter being the case only in the best soils. As each stem bears, it is cut down and its place supplied by a shoot from the stool, which in its turn bears, is cut down and replaced. It is estimated that from each group (thúru) of the plantains, seven or eight bunches, worth Rs. 2, are obtained during its lifetime, together with small additions by sale of the leaves and stems. In round figures a rupee pays all expenses including assessment. Hence, as there are from 300 to 400 trees per acre, there is a net profit in about four years of, say, Rs. 350 or 87 per annum. There are two modes of growing plantains, viz., pakka válai, planted 6 or 7 feet apart, and thúru válai, planted 10 or 12 feet apart; the former on high and kalar lands, and the latter on rich deep lands. In the former case only the mother (main) shoot is allowed to stand; in the latter all the shoots remain except the middle one (nadu kan), which is removed. Pakka válai gives 8 annas per stem in the three years of its life as net profit after deducting all expenses; as there are from 600 to 800 stems, the net profit will be Rs. 300 to 400 during the three years. In garden lands the shoots are planted at from 6 to 8 feet apart, and at any time in the year, but usually in January. The land is then well manured by sheep and thoroughly ploughed. The shoots are not watered for a fortnight after planting, and then not for a month subsequently; thereafter it is said that they are irrigated twice a week and hoed once a month for the three years of their life.

Betel (*Peltis*), (*Charica betle*).—Betel is grown chiefly near Coimbatore and in Polláchi and Bhaváni. The land, which has been well

prepared, is divided by water channels into beds of about 2 feet wide, and in August, agathi seeds are sown and occasionally watered till October. Betel cuttings from a two-year old garden are then planted between the agathi trees, at two per tree, and during three months are watered, on alternate days for the first fortnight, after which they are watered once a week. In January, the dung of cattle, asses and pigs is applied to the roots, and covered with silt from the water channels, and the creepers are then tied to the agathi trees. As they grow, they are repeatedly tied on with plantain fibre, till at the end of the first year they twine naturally. In July, manure is again applied. From the end of the first year leaves are picked daily for about sixteen months in the following two years if the soil be good and well manured. The best monthly yield of a good plantation per acre is said to be 15 kories = 240 palageis, each palagei containing 25 kattus (bundles) of 100 leaves each. The palagei is ordinarily sold at two annas, so that the monthly yield is Rs. 30 per acre, being for the sixteen months of crop a gross yield of Rs. 480 during the three years of cultivation. The labour is great, and the profits long deferred, so that it is not much engaged in, though so profitable.

Cotton (*Parutti*). (*Gossypium Indicum*).—Cotton is a crop universally grown and much liked. On the black cotton soil its yield and quality are fair, so that the returns in money are comparatively good, while on the red gravelly soil the cotton is a three or four years' shrub, and not only yields with far less trouble to the ryot, but is also comparatively non-dependent upon rain falling in any particular week or fortnight, whereas the ordinary cereals have several critical periods at which, if rain does or does not fall, they are probably ruined or seriously affected. Being a shrub, the four years' cotton can stand a drought which would destroy cereals, and will yield a flush of cotton two or three times a year. Moreover, the field invariably yields a good deal of pasture, and a catch crop of gram or even kambu and samei is frequently grown between the plants. A further reason for liking it is that the tap-root of non-annual cotton goes deep into the soil, and therefore not only feeds on the subsoil, but tends to open up that subsoil to the air.²⁷ The plant of both sorts also yields a great deal of fuel, which is especially important on the black cotton soils.

²⁷ The Coimbatore ryots who stated that they cultivated cotton not because it paid, but because it enabled them to pay the assessment, being in itself unentable so that they could not eat as much food as they would, were indulging in fiction. Cotton is instantly exchangeable for food, or money, or luxuries, or other goods, as may be seen in any market; and the ryot who can resist the exchange power of the pecuniary return can resist the sight of raw grain. No Hindius, whether ryot, or Brahman, or rich merchant, eat more than two regular meals per day, and it is obvious that ryots habitually starved, as they made out, would be miserable objects, instead of the prosperous, well-fed, full-sized men that they are. As a matter of fact, cotton is a favourite crop for the reasons given in the text, and their proverb, a relic of days when cotton fetched far less than now, is "Sow gingelly and cotton gladly" ("காளியும் கொள்செய்யும் கருதி பயிரிடு"). Cotton

In 1882-83 the area under cotton was 241,000 acres, an immense extension in spite of the vast increase in the price of cereals since 1853, when the area was 152,000 acres. Coimbatore has been the scene of various experiments in the growth of exotic cotton; in 1819 Mr. Robert Heath, Commercial Resident at Salem, introduced Bourbon cotton into Coimbatore by order of the Court of Directors; a year or two later, Messrs. Fischer and Company took up the matter, established large godowns, chiefly in the taluks of Erode and Dhârápuram, gave advances to the ryots for growing Bourbon, and were entirely successful in introducing this variety. They have since abandoned the business, but there is a large area, said to be many thousands of acres, under this cotton in these taluks. In 1840 the subject of introducing American varieties and modes of culture was again taken up by the Court of Directors, and under the superintendence of Dr. Wight, Coimbatore was, with other districts, the scene of elaborate efforts and experiments. Lakhs of rupees were spent, with the negative result that the exotics were unsuited to the climate, which was too cold; the American season for cultivation is the hot weather; in Coimbatore it is the cold weather when the plant is in full growth, though the actual crop is in the hot weather. The ryots also viewed the action of Government with suspicion or indifference; they did not believe in experiments, and the results of a costly cultivation were not such as to command their confidence. They were willing to cultivate the exotic upon engagements to take their cotton at a figure above the market price, but as a personal speculation they would have nothing to do with the matter. The experiment was discontinued after practical failure.²³ Several desultory efforts have since been made by private individuals, with no result; it is a matter in which business can only be done on a commercial footing. Mr. Wroughton's celebrated outturn was on the choicest land of the district, in a locality (Úttu-kál Mandapam on the Polláchi road, not Octacamund as erroneously supposed) open to both monsoons, and nothing is known as to the conditions of culture. The usual out-

is grown because it pays and because there is a limit to the market for common cereals, whereas there is practically no limit to the demand for cotton. If it were not a paying crop, it would not be grown, especially on the black cotton soils, which will produce anything and were worth Rs. 75 to 100 per acre before the famine. Cereals are double the price they were in 1860, while cotton is cheaper, and yet the cotton area has nearly doubled since that year.

²³ Wheeler's Cotton Hand-book. The conclusions come to were that cotton flourished best on deep red or brown calcareous loams, exposed to both monsoons, and deeply ploughed, including thorough ploughing several months before sowing, which should be in the early part of the south-west monsoon. Any ryot could have explained that any crop, or any sort of cotton, would grow luxuriantly on land which is the very finest and best situated in the district, and the season "discovered" is the regular cotton season for red soils, while preliminary ploughing in the kár (April-May) rains is an immemorial and necessary practice for all crops. The planting in lines is probably an improvement, but sowing it on the top of ridges is a questionable advantage. Whether pruning should not be resorted to is a question not yet much discussed.

turn is extremely scanty; it is certain that the yield could be largely increased by the use of plenty of manure and good tillage: a proverb says, "Interplough your young cotton seven times, and you will get a pot of money," (இளம் பருத்திக்கு ஏழு உழவுசெய்தால் தொப்பு பசையாகும்), but as regards manure, the ryot at present ³⁰ has too little, except for his gardens; these yield rich produce so abundantly that they pay better than cotton.

There are two great classes of cotton, viz., the annual or uppam (ukkam), and the tri- or quadrennial (nādam); the former is grown only on black soil, or good red soil near the hills, the latter only on the red gravelly uplands, especially when the rainfall is scanty.⁴⁰

The former, which is a dwarf variety, is sown in October-November, and yields its harvest in March-April, the plant is then pulled up and used for firewood, tatties, etc. Occasionally, if there is good rain in April, it is interploughed, and a small crop again taken in July. It is usually sown with Bengal-gram in lines through the cotton, or mixed with thensi and coriander, and the whole sown broadcast together. It is not interploughed, but hoed twice, viz., at the end of the first and second months. Manure is little used on black cotton soil, which, however, gets a good deal from the cattle wandering over it.

The non-annual is either Bourbon or nādam, which is the indigenous variety; the former is a short, large-leaved plant with red flowers; the latter is a tall shrub 5 or 6 feet high, with long, slender branches rising at an acute angle, leaves small, and yellow flowers.

The punnūl or ahen-parutti is another variety; from which alone the sacred caste thread is twisted. The Bourbon lasts for four or even five years, the nādam for only three. The outturn of these explains the fondness for cotton; it practically costs nothing, except a little ploughing and the picking. The seed is sown either in July-August, mixed with kambu and pulses, or in April-May, with cholam and castor or gingelly and dholl; sometimes with gram in September. In any case, the cereal and pulse crop is reaped in the usual way, and the young cotton plants which have grown under their shelter are left. In the first and third cases the first cotton crop is picked in the following July; in the second a crop is got in February, and then not again till the following February; thenceforward two crops per year are given. The yield in the third year from nādam and fourth from Bourbon is small. The crop is interploughed as often as possible, and gram, kambu or amsai are frequently sown. If the rainfall is poor or unseasonable, the yield is poor; but it can never be an absolute failure or a serious loss, as with short-lived cereals, and on the first subsequent good rain it will recover and yield well; hence it is much grown on the poorest soils.

³⁰ At present—and never will have enough till he returns direct to the soil what he and his family take from it, as in Japan, and, to a great extent, on the continent.

⁴⁰ Full details cannot be given in this Manual. For further details of cotton and its culture, see Board's Proceedings, No. 1234, dated 14th May 1883.

The outturn of cotton is very poor; on an average of years the quantity and value may be taken as follows:—

—	Uppam.		Bourbon.		Nâdam.	
	LB.	RS.	LB.	RS.	LB.	RS.
Cotton with seed	250	{ 12 to 14 }	120	{ 6 to 7 }	90	{ 4½ to 5½ }
Clean lint	62½		20		22½	

Maximum outturns may be 50 per cent. above these figures. Seed cotton contains only one-fourth its weight of clean lint, instead of one-third as under high farming (Saidâpet). The produce per acre appears to have deteriorated in quality and probably in quantity. Net profits, deducting assessment and all charges, are from Rs. 7 per acre in black soils to Rs. 2½ on poor gravelly soils.

The diseases which attack cotton are sunnâmbu, pén (asugani or poriyai), murulei, and adakkei. The first named is distinguished by brownish-white fungoid spots on the leaves and bolls; the yield is greatly reduced by this disease. The second and third have been described under tobacco, and are similarly caused. The fourth is due to excessive rain, when the strength of the plant appears to go to wood, and though numerous and hard bolls are formed, they contain no fibre.

Sugar-cane (*Karumbu*). (*Saccharum officinarum*).—Sugar-cane is cultivated chiefly in Coimbatore, Dhârâpuram and Udampet taluks, and but slightly in the others. It is usually grown on wet lands, which in Udampet and Dhârâpuram require little or no aid from wells, as the channels run nearly the whole year; in Coimbatore, as the lands are under Nôyil-fed tanks, wells are absolutely necessary. It is occasionally grown as a garden crop, and that under rain-fed tanks, such as Puttâr-pallapâlaiyam in Erode, is practically a garden crop.

The chief varieties are the white (vallei or rastâlei), striped (nâmam), and the red or purple cane; the first appears to be the Mauritius cane, introduced by Government some forty years ago; it has quite ousted the country cane, which was a very poor variety. The nâmam cane is chiefly used for eating, the rastâlei for jaggery and sugar. It usually alternates " with ragi and paddy, and in Coimbatore is said to follow betel well, probably because of the high manuring given to the latter. June is considered as the best season for planting, because of the abundant water for the next nine months. The land " is heavily manured, usually by sheep-folding at a rate equal to 6,000 to 8,000 sheep per acre for one night, at a cost of Rs. 15 to 20, ploughed

" Land does not in this district lie fallow after cultivation with sugar-cane, as sometimes supposed: it is grown merely as an alternate crop in a two or three years' rotation.

" A proverb says, "சாக் தோத்தல் கருங்கு மை," "Plant sugar-cane in kalar (damp alkaline) soil."

six or eight times, ridged at about a cubit apart, and cuttings of three or four of the upper knots of the cane planted each about 1 or 1½ feet apart. From 15,000 to 20,000 cuttings, costing Rs. 23 to 30, are required per acre. It is watered twice in the first week, and thereafter once a week for six months, and once a fortnight subsequently. Less water is used than for a five or six months' paddy crop, which requires a continuous flow, but cane occupies the ground for a longer time. Five or six weedings are given, each at the interval of a month; occasionally a compost of ashes, cow-dung, etc., is applied to the roots when the crop is 3 or 4 feet high, and the earth ridged up over it. At eleven or twelve months old it is ready for the market or for making jaggery; occasionally ratooning is practised, and this second crop is said to be nearly as good as the first, but this is doubtful, since, if so, it would be a general practice. The canes are all stout and strong, and being tied together when half-grown, and surrounded by a strong hedge, they require no wooden props as in other districts. Garden cultivation is very similar.

The total area in 1881-82 was 3,890 acres, of which 1,314 acres were in Coimbatore taluk within 5 or 6 miles of Coimbatore town. The yield of cane, numbering about 35,000, averages 25 to 30 tons, of juice 18½ to 22½ tons, of jaggery 2 to 2½ tons, and of sugar 2 tons per acre. The outturn of an acre will occupy a mill worked by two pairs of bullocks, one in the morning and one in the evening, for from 20 to 25 days. The value of the jaggery averages Rs. 210 to 240; the retail price is considerably higher than the price got by the ryot. When the canes are simply cut and sold for eating, Rs. 150 to 200 is about the price realized. The manufacturing process⁴² is as follows: the cane is cut into pieces about a cubit long, slightly beaten with a mallet, and then passed twice or thrice through the mill, which has two vertical wooden rollers of karuvéla (*Acacia Arabica*) wood, about 5 feet high and 8 inches in diameter, geared at the top by a peculiar endless screw, and worked by a long lever attached to the head of one roller. The juice is received in pots and carried to the boiler, which is a simple large copper pan about 5 feet in diameter at the top, 1½ deep, and holding about 600 lb. of juice; it is placed over an open fire, fed with the cane trash. Two charges, each added in four successive instalments, are boiled each day, 18 modas of juice (= 2,400 lb. at 1·1 specific gravity) being got through in that time. The yield of this is about 250 lb. of jaggery. A little lime temper is added to prevent acetous fermentation, and the scum is carefully cleared off. Owing to the rudeness of the process a great deal of the sugar becomes inverted, and is discoloured by partial burning, so that the sugary mass is a dark brown. When the juice has been inspissated to the consistency of thick

⁴² The process is given here as the industry is carried on only by the ryots, and not by professional manufacturers.

treacle, the charge is struck by turning it out into moulds, which are small square holes cut in solid planks. Sugar is obtained exactly in the same way, except that it is more rapidly boiled until a minute sandy granulation appears, when it is turned into a shallow tub; it is then continually stirred with paddles, and repeatedly poured over the sloping sides of the tub, until the minute crystals have somewhat developed by accretion. To secure a quick fire a little wood is used; this is the only occasion on which wood is required. The outturn of sugar is about 2 tons, value Rs. 230 to 250.

The following table gives useful particulars:—

Outturn.						Cost.				Profits on		
Cane.		Jaggery.		Sugar.		Cultivation Includ- ing assessment.	Manufacture of Jaggery.			Cane.	Jag- gery.	Sugar.
							Labour and wear and tear.	Bullocks.	Total.			
TONS.	RS.	TONS.	RS.	TONS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
25	150	2	210	2	230	75	28	25	120	75	64	85
to	to	to	to	to	to	to			to	to	to	to
30	200	2½	240		250	93			146	125	90	105

The mill is clumsy, difficult to move about, requires powerful bullocks by reason of the friction of heavy, ill-cut screw-gearing, and demands that the cane be twice squeezed; the services of a carpenter are frequently needed, as the rough threads of the gearing are apt to give way. The boiling is the process that most requires improvement; the ryots have recently adopted copper instead of iron for the pans, which is one step forward, but nearly everything is yet to be desired in the process.

An immense area of land is available for cane growing; 11,000 acres of wet land (occupied), all of which would grow cane splendidly, are available within 10 miles of Coimbatore town. The Erode wet lands are too wet for cane, which grows coarse, while the juice is very watery; a better irrigation system among the ryots would enable these to be utilized. Near Dhárápuram it is largely grown, and the area might be much extended. It is estimated that the cultivation of cane in Coimbatore, on 3,800 acres, employs a fixed capital of about 22 lakhs as the value of the land, together with a floating capital annually expended of 5 lakhs; the produce in jaggery and sugar alone is about 1,000 tons of sugar and 7,000 tons of jaggery, valued at 7½ lakhs. To this must be added the value of the cane used for eating and for supplying cuttings, which together absorb 10 to 15 per cent. of the gross outturn in cane. Actual profits, as in cotton and other crops, are somewhat greater than here shown, since much of the labour here charged in money is that of the owners and co-partners.

Pulimanji (*Hibiscus cannabinus*).—Pulimanji is grown everywhere in gardens and on dry lands, but especially in red loams and gravels; in the former with various crops, such as turmeric, ragi, kambu, etc.; in the latter with cholam and kambu. In gardens, as a mixed crop, it is planted on the ridges of the beds and water-courses, not indiscriminately; on dry land the seeds are mixed and sown broadcast. Occasionally it is grown as a separate crop in gardens, and is then sown thickly about 2 or 3 inches apart in beds, and watered twice a week.

The fibre is prepared by bundling the stalks, which, after a few days, are steeped for nearly a week in water under stones; when sufficiently retted they are cleaned by beating them on the ground, the fibre stripped off, washed and dried. Five hundred stems, about 8 feet high, as grown *en masse* in gardens, were recently taken at random and the fibre removed and cleaned in the usual way; the result was 5½ lb. clean and good fibre. The stems when carefully dried weighed nearly 20 lb. Assuming the were to be 40,000 square feet after allowing for waste patches, the number of stems at 3 inches apart would be 640,000; hence the yield in clean fibre at 1 lb. per 100 would be 6,400 lb. = 2½ tons; the stems would yield also 11 tons of poor fuel. The yield of three fine stems grown along the ridges in turmeric plantations, and measuring 16 to 17 feet high, was 3½ ounces of clean fibre, or somewhat over one ounce each, instead of one-sixth of an ounce. The dried stems each weighed five ounces instead of less than three-fourths of an ounce. The fibre is very well spoken of; in some experiments it was stronger, in some weaker than sunn hemp (*Crotalaria juncea*). This fibre appears to offer a splendid field for agencies either for cordage or more especially for paper stuff; it is grown with the greatest ease and abundance, and on dry land it never fails, though less productive than when grown in gardens. At present, when produced only in small quantities and rudely extracted by hand, it is sold retail, including the ryot's profit, at Re. 1 per 25 lb., and could certainly be produced far cheaper by the new machines. Any quantity could be grown to order.

Sunn Hemp (*Janappu-nâr*), (*Crotalaria juncea*).—Janappu-nâr is especially grown in Tingalur, and neighbouring villages of Erode taluk and the southern villages of Bhavani taluk. It is grown as a separate garden crop; the seed is sown broadcast thickly, ploughed in, formed into plots and watered twice a week from July to November-December. The plants are cut when the seed is fully ripe; the stalks after cutting are left on the field till thoroughly dried, then shaken to get rid of leaves and pods, bundled, and stacked in thatched heaps till required. The fibre is prepared by sinking the bundles in mud for four days; on the fifth day they are taken out and the root ends rubbed between the hands or beaten on the water, so that the fibre is loosened to half its length; they are then washed, dried in the sun for an hour or two, and the fibre then stripped clean off. Any adhering woody matter is removed by beating with wooden mallets. This rude process

is sufficient to produce very good fibre. It can be grown anywhere and to any extent if a demand is made by agents with money in hand. There is nothing in the soil or climate of Tingalur that is peculiarly favourable to sunn hemp; it is merely the custom to grow it there and manufacture gunny. Tingalur fibre took a first prize at the Madras Exhibition of 1883. The yield has not been ascertained; but must be very large, as the stems grow not more than 2 or 2½ inches apart, and about 3½ or 4 feet high. For particulars as to strength, etc., see Drury and the "Report on the Fibres of Southern India."

Topes, Orchards, &c.—Arboriculture is not much practised, though the district is fairly well suited for it. Practice in this case is singularly at variance with their own precepts, such as பெற்றபிள்ளை சொறுபோடாவிட்டாலும் அவத்தபிள்ளை சொறுபோடும், "In old age the offspring of his spade will feed a man, even if the offspring of his loins neglects him;" or, more pleasingly, அவத்தபிள்ளைக்கு பாடு பார்த்தால் பெற்றபிள்ளைக்கு உதவும், "Plant trees (cocoanuts especially) and they will feed you and your children." A variation of the first enjoins, with oriental exaggeration, the neglect of offspring rather than of seedlings. The rush for land and the indolence produced by high prices and low assessments have produced a wider and more slovenly style of cultivation than when every acre paid a high assessment (when calculated at the then prices of grain), and was consequently more fully utilized, as in planting trees in the corners and hedgerows.

Cocoanuts (Cocos nucifera).—These are found in large topes near Coimbatore; not seldom the trees are somewhat widely planted at perhaps 80 per acre, and plantains, ragi, and other crops are grown between them. There are other topes throughout the district, but to no great extent, though a few trees are frequently grown in line along the embanked water-course of a garden well. In topes they are usually planted at 15 or 16 feet apart, or from 160 to 200 per acre; in single rows they may be much closer. Good pits are dug, half filled with sand to check white-ants and facilitate drainage, and then filled up with mould, and the young plant, usually about a cubit high, carefully planted. Salt is not used in this district as a manure at planting. Ordinarily the trees come into bearing at from seven to ten years old, but if well manured, as in the Coimbatore Municipal gardens, where poudrette and the ashes of sweepings are freely used, they bear a little

⁴⁴ It has been objected that since trees such as cocoanuts can only be profitably grown as topes where there is ample water, viz., in wet lands, the practice of charging double crop assessment is prejudicial, since the ryot gets no returns for ten years, and cannot afford to pay double crop assessment for so long without return. This is but partially the case in this district; most land is compounded double crop and must pay that assessment, however cultivated. It is the deferred crop and the loss of crop for ten years, to which the ryot cannot make up his mind; the second crop assessment is inappreciable beside this temporary loss; it is the unwillingness or inability of most ryots to sink capital or keep land unproductive for so long a time that stands in the way of topes of fruit trees of the higher class, which, however, pay splendidly when once in bearing.

earlier; seventy years is supposed to be the life of a tree. A good tope should yield about 60 nuts per tree, which at an average of from 3 to 4 pies (6 is not uncommon in towns, and more at festivals) would yield annas 15 to 20, or from Rs. 150 to 200 at 160 trees per acre. It is usual to let them out to Shánárs and others, and 8 annas per tree is a usual rental in such cases. It is found by experience that on coming to maturity the tree should be used for a year for toddy drawing, after which the nuts are more abundant; possibly the continued flow stimulates the production of sap, which then becomes habitually abundant. In Coimbatore taluk alone these trees are regularly used for toddy drawing; much of the toddy is used for jaggery. Toddy is yielded all the year round, but especially in the rainy season and in the north-east monsoon: 20 lb. of toddy yield, when boiled down, about 3 lb. of jaggery worth about $1\frac{1}{4}$ annas. There are in the district about 3,439 acres under cocoanuts, of which 1,102 are used for jaggery, and are estimated to produce at 32 cwt. per acre 1,763 tons, worth Rs. 60 to 75 per ton.

Palmyra (Borassus flabelliformis).—The palmyra is largely grown, more especially in Erode, Dhárápúram and Palladam taluks, either in topes containing sometimes several thousand trees, in clusters, or scattered. Except in Coimbatore taluk the toddy supply is drawn from them. The cultivation is simply that of digging a small hole, dropping in the nut and covering it; if protected from cattle during its first year or two, it requires no further care. Many of the topes are due to Colonel Macleod, the first Collector of North Coimbatore (Buchanan), and many others to Mr. E. B. Thomas, whose name as a tree-grower is still current. The duration of the tree is unknown, the Tamil proverb giving it 1,000 years, being probably an oriental exaggeration. The trees grow much closer than cocoanuts, 400 per acre being a fair average. At 5 years old it is usual to begin cutting the leaves for use, and at 15 or 20 years they yield fruit and toddy. The palmyra toddy season is from December to May, and is usually marked by an increase in riotous quarrels.

An expert climber will manage forty trees per day, climbing each tree twice and sometimes thrice. In Kángyam and Perundurai divisions jaggery is largely made and exported from Úttukuli and Perundurai railway stations; 20 lb. of juice yield about $2\frac{1}{4}$ lb. of jaggery, value a little over one anna. It is exclusively made by the Shánárs, and is poor, discoloured stuff, in which the sugar is chiefly invert sugar and molasses, and it is used, it is believed, almost solely for distilling purposes; it is sent to Coimbatore in large quantities to the arrack distillery, and to the seaports.

The area under palmyras is not known, and is manifestly much understated at 1,888 acres, trees being plentiful, both as topes and scattered over several taluks. One thousand one hundred and sixty-nine acres are said to produce jaggery at 40 cwt. per acre, worth from Rs. 55 to 75 per ton.

The areca palm (areca catechu) is grown occasionally near towns, especially Coimbatore, but is not important.

Pomegranates (*Mithalai*), (*Punica granatum*).—Pomegranates are largely grown in the vicinity of Perundurai, Uttukuli, Tiruppúr and Ávanáí, and, as an article of trade, are almost confined to that locality. No reason can be assigned for the restriction—soil, water, and climate being similar in hundreds of other places. Nevertheless, as has often been said, it is not custom, and so this valuable and paying product is hardly grown elsewhere. It is a garden shrub, is planted in ordinary soil, watered once or twice a week according to season, and bears in its third year. Two crops are yielded per annum, from fifteen to twenty being the produce of each tree per crop, though the best fruits are only produced by thinning. Except in the hot weather, fruits seem to be always procurable. The shrub lasts for some years and is said to grow again from stool if cut down; ordinarily it grows to 7 or 8 feet, but may be seen 15 or 20 feet high. The fruits have the advantage of bearing transit and remaining fresh, so that a large trade is done with Madras; railway travellers readily buy the fruit at Tiruppúr, Uttukuli and Perundurai stations, the better ones at 1 anna, and the poorer at 6 pies each. The profits are thus considerable, 8 annas per tree as rental being readily obtainable. But the fruit is capable of great improvement, and judicious culture has made several ryots famous for the beauty, colour, size, and juiciness of their fruits. The roots are opened out, dung applied, small stones placed round the roots, apparently to admit a free circulation of air, and the earth replaced. It is strongly recommended as a useful and productive backyard shrub. Several thousands of these have been grown in a year in a single nursery (Kángyam), and eagerly taken up by ryots for this purpose.

The citrus family are not remarkable except by specimens which show what can be done. Limes are best grown in Bhaváni; oranges are not grown, even the náthankáy being rare; the pamplemose is grown to some extent, and the Kángyam fruits are famous, those of a single tree belonging to a Vellála woman being superb in size, flavour and juiciness; these particular fruits give no seeds: the tree is said to produce 200 fruits per annum, from December to April; these sell at five or six per rupee, the produce being thus worth from Rs. 20 to 30. There are other well-known trees. The fact of these few trees existing and being famous, itself points out the possibility of other trees, and their present rarity.

Grapes are practically unknown, only a few vines existing in Coimbatore, Udampet, and one or two other places. Good grapes have been grown, and only care and attention are required, the soil and climate being very favourable. Vines at Erode have borne within the year, and both there and at Coimbatore grow luxuriantly with water and manure. For culture on a large scale, as near Krishnagiri in Salem where immense rents equal to Rs. 400 per acre are freely obtained,

the vine, whether for fruit or wine, is indicated as a promising object of attention on the Coimbatore plateau; as an object of culture in backyards or small gardens attached to houses, it is unequalled. Mangoes are little grown; a few well-to-do ryots have a few trees: a mango tope is almost unknown in the district. Tamarinds are comparatively rare as compared with other districts; the jack is hardly known; the naya (naga) tree is rare, and the guava entirely absent. In some parts, especially near Kunnattur in Erode taluk, the jujube (*Elaeagnus*, *Zizyphus jujuba*) is common. The bael and wood-apple are rare, the former being only found near temples.

The comparative scarcity of fruit in this district is one of its melancholy facts. As an article of trade or of diet fruit is most valuable, but there is an absolute want of energy in the ryot, who in this case cannot complain of want of example. The pumplemose, pomegranate, lime, tamarind, jack, palmyra, might all be grown with the greatest ease and profit, and the ryots know it, but do nothing. If Government will give them a sapling, they will perhaps accept it; but they would like to ask for a chatty and labourers to water it: with all his hot weather and other leisure, and his women and children, it is too much trouble to water a dozen shrubs twice a week; yet these dozen shrubs or a single pumplemose would often pay his whole assessment. That soil and climate though dry are not unsuitable, is seen by occasional samples all over the district, while the higher plateau from Tirupur to Coimbatore is probably eminently favourable for this backyard or occasional culture. The palmyra will grow for the mere planting, especially if put into the hedges, which it will strengthen and define for centuries; the tamarind with a little care for a few years, will grow in many of the waste corners of fields and headlands, and in the hedges, and each tree will pay the kist of a field. There are also thousands of waste corners of wet land, channel banks, and so forth at present unutilized, but which would grow cocoanuts, mangoes, and so forth without trouble. The non-utilization of waste, whether of time or land, is a striking feature of Coimbatore, and is curiously at variance with their own proverb "மலைகளில் கிணத்தால் செலவாகு உதவும்," "If but a corner of a field be cropped, it will yield a cloth," a proverb which invariably produces a murmur of approval and assent, especially from the females of the audience (*செலவ* = cloth for a woman) as a saying of much practical good sense.⁴⁵ Mr. Robertson's remarks (paragraphs 19, 11, 15, 16, 211, 215) are very valuable; but that there is an almost complete absence of trees in the ordinary villages, is an opinion that can hardly be acquiesced in, at least for the tracts north of the Noyil. What are wanted are reserves for fodder purposes and for fuel supply

⁴⁵ Proverbs have been quoted in this section, partly because agricultural precepts and practices have crystallized into these popular aphorisms, partly to illustrate the love of the people for epigrammatic sayings.

in the towns, more trees in the hedges, and an abundance of fruit trees scattered everywhere on sanitary, financial, and other grounds; in backyards, gardens, and corners of fields (*vide* Village Sheet, District Gazette of May 1883).

Mr. Robertson's paragraph 16 is suggestive, and no one can doubt but that tree-planting in the holdings might successfully be made a condition of tenancy, at least in all future puttahs. Ryots should do something for themselves, especially in places where the formation of Government jungles is almost impossible by reason of the hostility of soil and climate:—

"I am convinced that if proper means were taken, there would be no difficulty whatever in clothing with trees the greater part of the district where trees are needed, but to produce this result the ryots living in these places must be distinctly informed that they must plant and rear a certain number of trees for each acre of land under occupation, or that the State will plant and rear the trees at the expense of the ryot. If the State is bound to support the ryot during famine seasons, it certainly has a right to expect that he will take such precautions as are in his power to make these famine seasons as less frequent as possible. On two or three occasions when discussing this question at ryot gatherings, the people said that if Government ordered them to plant and rear trees they would do so. It would, I think, be doing a kindness to the people to compel them to plant a certain number of trees on all their holdings where trees are needed, the trees, of course, to be the property of the people who plant and rear them, but restrictions to be laid down as to felling, &c. The trees need not interfere to any extent with the area of land under cultivation. There is all over the district where trees are needed, sufficient waste land to produce the trees required. In speaking of "waste" land I do not use the word waste as it is understood in the revenue classification, but in its ordinary sense; there is a very considerable area of the so-called cultivable land which is, to all intents and purposes, waste and which might be cropped with trees."

The State should compel the ryots to grow trees.

Land available for growing trees without interfering with arable land.

Fibres.—*Hibiscus cannabicus* and sunn hemp have been described above; for other fibres, see "Flora."

Oils.—See "Flora" and "Other Industries."

Stock.—Four breeds of cattle are found in this district besides the miscellaneous lot in common use by the ordinary ryots;⁴¹ these are the

⁴¹ On the subject of stock there has been much misapprehension both as to quantity and quality. Cattle and sheep used to be heavily taxed, and since the time and ingenuity of the Revenue establishments were directed to an investigation of the ryot's circumstances and to keeping up the revenue, cattle were in some degree censured in early days, in spite of which the tax was no doubt avoided by bribery or fraud in thousands of cases. When, however, the tax was abolished there was no longer an inquisitorial enquiry, with the result that kharans have simply repeated the old figures with variations to prevent detection, or have taken the statements of the ryots, who, to avoid the chances of future taxation and to avoid ill-luck, regularly understate the numbers of their cattle. Moreover the statements are regularly prepared in the hot weather, and it is at this season that most

Álambádi, Bargúr, Kongu, and Nellore breeds. The last is merely imported, and that but recently; the others are indigenous, Álambádi being common to Salem also.

The following description has been given of Álambádi cattle: elegant in appearance; horns small, tapering, and well-set; eyes prominent; dewlap lengthy; of moderate size and usually sleek and glossy, bigger than the other two breeds, but not so swift and strongly made as the Bargúr cattle; docile and useful for any work.

Bargúr cattle are the swiftest and strongest of the breeds, moderate size, head small, eyes prominent, good appearance, timid, horns tapering and longer than those of Álambádi, dewlap not so large; stubborn and rather intractable.

The Kángyami cattle are well known for their excellent qualities, whether for labour or milk. Somewhat small in size; appearance elegant; horns variously sized and set; colours different, but usually white or grey; chest and hind-quarter said to be narrow; docile, quick and strong. There are however varieties, some cross-breeds being nearly as large as Nellore cattle; these may be met going to pasture, or seen at work in gardens or grazing in the paddocks.

The Álambádi cattle are bred in the wild country near Kávérípuram on the Coimbatore side of the Cauvery, and Meyeheri on the Salem side.

Bargúr cattle come from the Bargúr hills of Bhaváni and neighbourhood, and from the hilly country of Mysore.

of the cattle, especially the best, are grazing in the hills and forests; this is another reason for under-statements. That there is under-statement is certain from an inspection of the villages, and from the returns given in when remissions* were sought for, and is proved by examining the figures from the last quinquennial and administration reports (1882), where it will be seen that the bullocks do not suffice for a pair for each plough, although only one plough is allowed for as much as 14 acres: this is not only absurd, but there is no margin for cattle under three years of age or for worn-out cattle, or for the large number of cart bullocks, or for those bred for sale in myriads both in the plains and hills. Similarly the number of cows is far below that of bullocks and there is no allowance for heifers, while the number of sheep and goats is put down at only about 20 per cent. above that of bullocks and cows together.

There is in this district a great demand for leather well-buckets, there being about 81,000 lifts in working order. For these and the repair of the tail-tubs at least one hide per bucket per annum is used; hence 81,000 hides are annually needed for this purpose alone, quitting all other requirements. In some cases no doubt hides may be imported from surrounding districts, but prices do not allow of import from distant places, while other districts also, though not in the same proportion, require hides. Hence, most of these skins are probably obtained within the district, and experience shows that every weekly market is crowded with hides tanned by local Chundlers. If the skins used for basket-bands, shoes, carpets, &c., be added, and those of animals dying in the forests, the annual death-rate of full-grown beasts must be at least 100,000 and probably more. Assuming an average of nine years as the life of full-grown horned cattle (it is to be

* In 1881, when remissions of famine year dues were freely granted, the number of cattle held by a ryot was a factor in determining the question of remission. In several villages the number of cattle held by ryots seeking remission—necessarily only a part, and that the poorer part of the cultivators—considerably exceeded the quinquennial returns for the village, although this number was stated by those interested in getting remission.

Kángyam cattle are bred only in that division. Some farmers have from 500 to 1,000 head of cattle which are bred for sale. The Pattagar of Pálayakottai on the Nóyil makes this and horse-breeding his speciality, and the Monigar of Kadiyúr has above 800 head. The best cattle are never brought to the weekly markets, but are kept for breeding and the use of their owners; the cattle usually brought for ordinary sale are only of the commoner sorts; the next best are those to be got by private purchase; better still are those bought by regular traders and taken by them to the great cattle fairs in other districts as at Madura Chittri festival, or those sent by the breeders for sale at the Avanási, Mahádeswara, and other great cattle fairs, which afford good opportunities of inspecting the better classes of district cattle.

Dentition is permanently completed by 6 or 6½ years: the maximum life of stock is said to be 25 years, and 30 on the hills.

Castration is effected by the crushing process, generally in December or January, at about three years of age, i.e., when the first pair of permanent incisors are developed. Bulls are allowed to cover, and heifers to be covered, from that age.

The qualities attended to in breeding are size, colour (which should be grey), strength and fineness of hair. Bargúr and Álabádi bulls have, during the last twenty years, been used as a cross in Kángyam and the neighbourhood.

renumbered cattle are not killed for food) there would be 900,000 horned cattle in the district, besides calves, as against an entry of 801,055 for all ages (vide Erode taluk notice).

Until a real census of cattle and sheep has been made, deductions as to manuring and pasturage are apt to be fallacious. For an account of grass lands *see supra*, and *see*. "Pasture" and the chapter on Land Revenue.

As regards the quality, Mr. Robertson (1876) was disappointed with what he saw, but was unfortunate in seeing only the cattle at work or in the ordinary markets. Circumstances are much the same as in former years, while prices have largely advanced. Mr. Wedderburn (late Collector) states that to his knowledge the price of a good cow has advanced from Rs. 10 or 12 to Rs. 40 and even higher. With such prices, which have more than kept pace with the general advance in agricultural prices, there is no reason to suppose that breeders would neglect their stock, and as a matter of fact, they do not do so. It is to be understood that the celebrated Kángyam breeds are not the common cattle of Kángyam, but are the property and produce of large breeders such as the Pattagar of Pálayakottai and family, the Kadiyúr Munaff-Monigar, &c., who maintain herds of from 500 to 1,000 head, and keep large numbers of cows and bulls for breeding only. Many ryots, however, own from 10 to 20 head of cattle reared for sale, and of more or less value. These cattle are sold, not at ordinary markets, but to dealers who come to the district for the purpose, or at the celebrated cattle fairs of Avanási, Mahádeswara Hill (Kollegál) and Madura. Excellent cattle may be seen in droves in the fields and along the lanes of the Kángyam division, especially when returning home in the evening; elsewhere less frequently. The best cattle can only be seen by going to look for them at the villages.

Mr. Shunker, Deputy Inspector of Cattle Diseases, who was for some months in the district in 1883, states in a note that he was struck with the excellent cattle at Kángyam and the neighbourhood; that one breeder (Pálayakottai) had recently sold 200 head of cattle at prices from 100 to 200 per pair; that he saw several ponies worth Rs. 150 and many others of fair value; that at Kángyam itself he met two horse-dealers, one from Ceylon and one from Trichinopoly, and that neither in Mysore nor in any other district has he seen such good ponies. Breeders are fully alive to the increased value of stock for which they get large prices.

The quality and quantity of milk are fair and duration good; a Kángyam cow costing Rs. 30 to 40 will on good feeding give milk for ten to twelve months with a maximum of six to eight bottles per day.

Buffaloes are neither numerous nor of good quality; they are seldom found, except in the wet villages, and amongst Wudders for use in stone trollies.

Sheep and Goats.—These are either velládu (goats), semmariádu, or kurumbádu. The former is the ordinary long-legged goat; the second is the reddish-haired sheep; the third is almost peculiar to Palladam, Pollachi, and Coimbatore, and has a thin wool; this sheep is usually white with black head. Goats are horned in both sexes; in the other two breeds only the rams have horns.

The kurumbádu are tended by Kurumbars, who usually take them to graze in hilly tracts during the hot weather, bringing them back in the rains. They get no special food, but pasture where they can; they are usually let out for manuring purposes at about 3 to 4 annas (usually in grain) per night, or Rs. 4 per month per flock of 100 (mervu or manthai). Their life is 7 years for ewes and 8 or 9 for rams; breeding is once a year, conception being usually in spring and birth in autumn; one lamb at a time is usual. Only four or five rams are allowed per 100 ewes. Dentition is completed by the third year, the first pair of incisors appearing at 1½ years, at which age rams are gelded, usually by crushing the cord.

Sheep are sheared usually in January, but occasionally in June; the wool weighs only a few ounces, but it is said that only that of the back is used. Excellent white cumblies (coarse blankets) are woven by the Kurumba females, selling at from Rs. 2 to Rs. 5 according to weight, which varies from 4 to 8 lb. The mutton of this variety is coarse and poor.

Of the other breeds, the red breeds once a year, the goat twice. The average carcass weight (mutton) of a sheep is 20 to 25 lb.; some have been known to yield above 40 lb. of first-class mutton, fetching 10 or 12 rupees. The ordinary price is from 1 to 3 rupees. The quality of mutton of the ordinary red sheep is good, even when simply grass-fed. For manuring purposes they are let out at rates similar to those obtained for the kurumbádu. The duration of life is also similar.

The chief defect in rearing is the want of proper feeding and care during the wet season.

The goat lives for 10 years. Breeding rams are given about four-fifths of a pound (4 pallas) of cotton seed daily in two meals, or three-fifths of a pound of gram steeped in water.

In 1839 half-bred merino lambs were introduced, but apparently without result. Again in 1842, twenty half-bred and two pure-bred merinos were obtained by Mr. Wroughton, but without success, and a similar experiment in 1850 was without result. Mr. Robertson considers that there was a great deal of mismanagement; the causes of failure are

not clear, and in view of the very superior wool of the merino crosses, the experiment might again be tried.

For a description of the horses of the district, see "Fauna," *supra*.

Diseases of Stock.—The chief diseases which attack cattle are (1) foot-and-mouth disease, (2) rinderpest, (3) variola, (4) anthrax, (5) fever, (6) malignant sore-throat, (7) tympanitis, (8) malividi (மலிவிடி), (9) koleimutti or kúda-nóvu (கொலைமுட்டி or கூட்டுநோய்), and (10) téttár (தேட்டார்).

Foot-and-mouth disease.—Váy-sappei, kál-sappei (வாய்சப்பை, கால்சப்பை); this does not happen in cold and rainy seasons. Symptoms: discharge of saliva from the mouth, vesicles in mouth and in clefts of the hoofs. Treatment: (1) wild indigo and chunam are well ground and applied to the vesicles in the clefts of the hoofs; (2) camphor is also applied; (3) cold water in which dry fish are steeped, is poured down the throat of the animal, and with this water the vesicles in the clefts of the hoofs are washed; (4) tar is applied to the vesicles in the clefts; (5) camphor and the leaves of *Leucas aspera* (thumbei, தும்பைதலை), are ground and applied; (6) chunam and camphor are well ground and applied; (7) the animal is made to stand on hot sand; (8) camphor and *Acorus calamus* (sweet-flag; vasambu, வாசம்பு) are made into fine powder and applied; (9) pepper well ground and mixed with warm water is poured down the throat; (10) lard is applied to the eruptions in the mouth; (11) the animal is made to inhale the smoke caused by burning dry fish.

Rinderpest.—This disease is known by different names in different places, as alari (அலரி), vayitteduppu (வயித்தெடுப்பு), káttu-nóvu (காத்துநோய்), peru-nóvu (பெருநோய்), and kóvári (கோவாரி). Symptoms: (1) purgation, first watery and then mixed with blood and mucus, (2) impaired appetite, (3) shivering, (4) accumulation of rheum (mucus) in the eyes, (5) great prostration. Treatment: (1) palmyra toddy is poured into the throat; (2) the leaves of *Sida humilis* (palampási, பழம்பாசி), cummin seed, onions, and the succulent portion of the aloe leaves (sóttukattálam sóru, சோத்துக்கத்தாளம்சோறு) are well ground and mixed with buffalo butter-milk and poured down the throat; (3) the tender leaves of *Cassia auriculata* (áváram kolanthu, ஆவாரம்கொழுந்தி), the succulent portion of the aloe leaf, cummin seed, onions, and the tender bark of *Balsamodendron Berryii* (aliter, *Amyris spinosa*; kiluvei, கிலுவை) are well ground, and, being mixed with vinegar, are given; (4) the bark of *Ficus racemosa* (atti-pattei, அத்திப்பட்டை) and *Amyris spinosa*, onions, cummin seed, and coconut spathe, are well ground, mixed with vinegar, and given to the animal; (5) fifteen or twenty horse-plaintains are steeped in one or two measures of gingelly oil at night, and next morning two or three are given to every

¹ Supplied nearly *exhaustum*, after several special tours, by M.R. Ry. Krishna Rao, Agricultural Student holding a first-class certificate, and now in the Collector's office.

animal attacked; (6) the leaves of *Sida humilis*, after being well ground, are placed in the middle of a horse-plantain and given to the animal; (7) onion, cummin seed, and the leaves of *Amyris spinosa* are well ground together with cubebs (*vāḷ-melagu*, வாழ்வினாஞ்ஞ), mixed in vinegar and water, and given.

Vaccine Variola (*ammai*, அம்மை).—Symptoms: vesicles all over the body, eyes red, mucus and saliva flowing from nose and mouth, loss of appetite and evacuations from bowels. Treatment: (1) cocoanut spathes and onions are well ground with vinegar and water, then mixed with cocoanut milk and poured down the throat; (2) boiled kambu, onions, cummin seed, and the bark of *Cussia auriculata* are well ground, mixed with vinegar, and given to the animal; (3) the leaves of *Sida humilis*, onions and cummin seed are ground and mixed with buffalo butter-milk, and given; (4) lard mixed with onion and cummin seed is ground and given in acidulated water.

Anthrax Fever.—This disease goes by different names in different parts of the district, as *sappei-vikkam*, சப்பைவீக்கம், or *sappei-nōvu* சப்பைநோவு; *mennikatti*, மென்னிக்கட்டி; *piclu-netti*, பிச்சுநெட்டி; *nenju-adaippān*, நெஞ்சு அடைப்பான்; *panni-kuruvai*, பன்னிகுறுவை; *pōy-vikkam*, போய்வீக்கம், &c. Symptoms: swelling of the loins, hind-quarters, throat, chest, or abdomen. Treatment: (1) branding on the swollen part; (2) boiled lamp-oil mixed with butter-milk and *assafoetida* is poured down the throat; (3) onions, the leaves of *Sida humilis* and cummin seed are ground, mixed with acidulated water, and given. Treatment is seldom of any avail.

Malignant Sore-throat.—This disease is known under the names of *kolli-vinga*, கொல்லிவிங்கு; *kuruvai-nōvu*, குறுவைநோவு; *panni-kuruvai*, பன்னிகுறுவை; and *piclu-netti*, பிச்சுநெட்டி. Symptoms: swelling at the throat, discharge of saliva from the mouth, mucus from nose, flow of tears, and sometimes the swelling on the throat extends down the neck. Treatment: branding. This sickness generally proves fatal.

Fever (*virippu*, விரிப்பு).—Symptoms: shivering, staring coat and impaired appetite. Treatment: (1) powdered pepper is mixed with warm water and given; (2) dried *pāchān-kalli* (பாச்சான் கள்ளி, milk-hedge) leaves are burnt and the animal is made to inhale the smoke; (3) powdered pepper is mixed with goat's milk and given to the animal; (4) pepper, chillies, and *assafoetida* are ground together in the juice of the betel leaf and applied to the eyes; (5) the dried leaves of *pāchān-kalli*, hair, wool, and the dung of asses and pigs are burnt and the animal is made to inhale the smoke; (6) virgins winnow ashes upon the animal attacked.

Tympanitis (*mattu-adaippān*, மட்டு அடைப்பான்; *ūttu-adaippān*, உது அடைப்பான்).—Symptoms: swelling of the belly, laboured breathing, flowing of mucus from the nose and saliva from the mouth, and frequent evacuations in small quantities. Treatment: (1) brand-

ing, (2) lamp-oil mixed with butter-milk in which a hot iron has been plunged, (3) ginger, pepper, chillies, assafoetida and the bark of the vakkana tree (வக்கனமரம்) and ūjal tree (ஊஞ்சமரம்) are well ground together with *Acalypha Indica* leaves (kuppa-mēni, குப்பமேனி), mixed with the urine of children and poured down the throat.

Malicidi (மலிதிடி).—Symptoms: swelling of the knee joints. Treatment: branding the swollen part.

Koleimutti (கொலைமுட்டி) or kūda-nōvu (கூட்டுநாவு).—Symptoms: congestion of the lungs, swelling of the belly, and the respiration checked. Treatment: a hard kick on the chest.

Kuthirai-ralippu (குதிரைவலிப்பு) or nimiri (நிமிரி).—Symptoms: quivering of the legs.

Thēldru (தேட்டாறு).—Symptoms: swelling around the fetlock joint. Treatment: branding the swollen part.

Diseases of sheep are:—

Vayitteduppu (வயிற்றெடுப்பு), therippān (தெரிப்பான்), kāttu-nōvu (காற்றுநாவு), peru-nōvu (பெறுநாவு), alari (அலரி).—These names are given to the same disease. Symptoms: the belly swells; watery discharge from the bowels for two or three days. Treatment: powdered pepper is mixed with vinegar and water and poured down the throat. This disease generally proves fatal.

Thullal (தூலல்), posukku-nōvu (பொசுக்குநாவு), kirakku-nōvu (கிற்றுக்குநாவு), thaleivettī (தலைவெட்டி).—These names are given to the same disease. Symptoms: the sheep attacked with this disease separates itself from the flock, jumps, and then falls down. As this is contagious, sheep die in numbers, and no treatment is generally adopted.

Kokku-nōvu, yeri-nōvu, or cough (கொக்குநாவு, ஏரிநாவு, இருமல்).—Symptoms: coughing. This being contagious, sheep die in numbers. No treatment is resorted to. All classes of sheep are subject to the above diseases.

CHAPTER IX.

TRADE.—Exports.—Imports.—Local. Industries.—Leather.—Cotton.—Silk.—Gunny.—
Other Fibres.—Jaggery and Sugar.—Pottery and Bricks.—Oils.—Iron.—Saltpetre
—Carts.—Paper.—Coffee.—List of factories.

TRADE.—Regarding this no statistics are procurable save those of the railways, which will be found in the Appendix, and from the establishment appointed to check the traffic between Coimbatore and Mysore. This latter trade has always been considerable, but the Mysore State Railway is now affecting it in some articles. The chief imports from Mysore are cattle, cotton twist, raw silk, and salt; the exports are cotton goods, brass and copper vessels, ghee, cattle, raw silk, spices, tobacco, sugar and leather. The total value of the import trade with Mysore in 1882-83 was Rs. 9,51,626 and that of the export trade Rs. 10,45,849.

There is very considerable cart trade, especially in the southern taluks, which are not only unprovided with a railway, but largely produce articles of export, such as cotton, oil seeds, &c., while they receive in return cloths, salt, and the like from the districts to the south and west. In six months (June to November 1883) no less than 16,309 laden carts and 14,431 empty, besides ponies and bullocks, were registered at the spot where traffic crosses the Amaravati from Dhārāpuram to Karūr and the Madura district, and *vice versa*.

The tolls at Pollachi average Rs. 7,500 per annum, and are levied only on traffic passing on the eastern and western roads, and not on the roads to and from Coimbatore and Palladam. Allowing for establishment and profits, it is evident that at two annas per cart there is considerable traffic. The business done at the numerous markets and the good prices obtained for farming the moderate fees, show that there is a brisk interchange of rural produce for cash, salt, or foreign goods.

The chief articles of trade are as follows:—exports—cereals and pulses, chillies, turmeric and spices, cotton, oil seeds, tobacco, ghee, sandalwood, plantains, jaggery, brass and copper vessels, cattle and leather; imports are timber, paddy, salt, salt-fish, piece-goods and twist, metals and metal goods, cocoanut oil, spices.

Local trade deals in all sorts of agricultural produce, jaggery, sugar, iron, cloth, and country blankets, oil, &c. Cotton goes chiefly to Madras from the northern taluks, and to Tinnevely from the southern; the latter principally by cart, of which thousands arrive at Udamalpet in the season; the West Coast is almost entirely supplied with tobacco from this district; the other produce goes chiefly to the neighbouring districts, though Bangalore merchants buy paddy and gram largely. Gingelly oil goes southward and to Madras, while nearly all the ground-

nut of Karúr goes in bulk to Pondicherry. Timber is exported to some extent, but Pálghát timber is preferred for important work; the Bombay trade in Ánaimalai teak is still carried on, but not to the same extent as formerly.

The ghee trade with Mysore, now worth about a lakh of rupees, appears to have also fallen off since the time when former Collectors spoke of it as important; this is probably due to the larger consumption in this district, and may be also a mere relative decrease, since in those days traffic was small and only expensive products bore transit along the tracks that were called roads, and on the pack bullocks that were the sole means of transport. Leather is made and exported in considerable quantities, chiefly sheep and goat skins, which are sent to the English market.

INDUSTRIES.—Agriculture is the staple industry of the district; this has been noticed in a separate section. Other industries are the manufacture of leather and leather well-buckets, cotton and silk goods, gunny, sugar and jaggery, pottery, bricks and tiles, oil, iron, saltpetre, carts, and furniture; also coffee-curing, cotton-pressing, and, recently, fibre-cleaning.

Leather is chiefly tanned at Coimbatore, where there are three large and well-managed yards, as well as one at Mottupálayam; there is also one at Pallapatti and two near Karúr, those at Karúr itself having recently been closed. Goat and sheep skins are chiefly dealt with, and form an important article of the export trade, many thousands per month being sometimes dealt with by a single firm. The materials used are solely lime, the bark of *Cassia auriculata* (áváram), myrabolams (kadukáy), and oil. The process is much more speedy than in England, chiefly owing to the thinness of the skins and the rapidity of action under a tropical sky; even ox hides are tanned in about forty-two days. The thicker hides would often be improved by a slower process. Ordinary sheep skins are tanned in from fifteen to twenty days. The process is very simple; the skins are limed, haired, passed through bark infusions of increasing strength, finished off, chiefly it is said for colour, with an infusion of myrabolams, and finally dried, oiled, rubbed and polished, and stored.

Leather well-buckets are a source of much profit to the Chucklers; each well-lift requires a new one every year, and as there are 83,622 lifts in actual use, about 80,000 buckets, each requiring one ox hide, are used per year. These are probably the leather cases (bags) of the census. They are circular-mouthed bags, about two feet wide, tapering for about three feet, and fastened to a leather tube of some four or five feet long; their cost is about Rs. 6. Raw buffalo hide ropes are frequently used for these lifts. Leather sandals are also made in vast quantities by the Chucklers, and are sold at 8 to 12 annas per pair.

Cotton is largely spun into thread, but machine twist is chiefly used in weaving. The ordinary goods are coarse pieces of little individual

value, but in Coimbatore town there are still a few weavers of great skill who are able to work in 200 and 230 thread; some of their goods were exhibited at the Madras Exhibition of 1883. The number of looms in 1882-83 was 10,879, and the estimated outturn was valued at Rs. 1,750,511 or Rs. 161 per loom.

Cotton carpets of excellent quality and colour are made at Bhaváni; they were exhibited at Madras in 1883 and took a first prize. The river water is said to be specially excellent for the colours used, which are chiefly country-made vegetable dyes, though the anilines are unfortunately coming in.

Silk growing and rearing are only carried on in Kollegál, where the climate is more favorable for the worm and the mulberry. The dyes are very good, and the finished goods very effective and handsome; their value is from Rs. 30 to Rs. 500, according to quality, finish, and ornamentation. In some cases the cloths are ornamented by the introduction of silver and other embroidery woven into the cloth while still in the loom; such cloths are peculiarly effective but somewhat costly. In 1882-83 there were 88 silk looms at work, which turned out stuffs worth Rs. 26,976 or Rs. 306 per loom. The number and value appear to be understated. There was in 1882-83 an export of raw silk valued at Rs. 2,07,856 from Kollegál to Mysore, and this was overbalanced by an import valued at Rs. 2,46,545; the reason of this is not clear. Experiments in silk-growing have been made in Coimbatore town both by a late President of the Municipality and in the central jail. In the former case silk was grown and made into jackets, but they were very costly. In the jail there were once several acres of mulberry, but these were cut down. It was again tried on a small scale, but in a hot night of May 1881 the whole of the worms died. The silk produced in 1873 was 50 lb., of which 39 lb. was sold at Rs. 6-8 per pound, the cost being that of the convict labour. Nothing was proved by these experiments except that silk could be grown, but whether with profit or certainty is not known. The climate being dry and equable and not extremely hot, the district would seem very suitable for silk culture; labour is cheap, the mulberry thrives well, especially if watered occasionally and manured, while six crops of silk could be readily obtained, the crop requiring from egg to reeling only fifty-seven days. It is believed that the sudden death in the jail was due to the room having been shut close all night, so that the delicate worms were stifled.

Silk culture is again being carried on in the central jail.

Sunn Hemp (*Crotalaria juncea*) is largely grown in some of the northern villages of Erode and southern of Bhaváni, and woven into excellent gunny, which took a first prize at Madras in 1883. A demand would be met by growth and supply to an indefinite extent, as it is easily and cheaply grown and cleaned.

Other fibres are altogether more rural or domestic manufactures, and will be found under "Agriculture" and "Vegetable Products."

The only exceptions are the recent introduction of machinery by Messrs. Stanes and others to clean *Sausseriera Zeylanica*, and the rope industry at the Karúr Wesleyan Orphanage, where first-class ropes of various fibres and sizes are now made.

Jaggery is of three sorts—palmyra, cocoanut and cane. The former is made by Shánárs only, especially in North Dhárápúram and Erode taluks. It is a very coarse product, containing much invert sugar and molasses, greatly discoloured by the rude process of manufacture. It is chiefly exported or sent to Coimbatore for distilling purposes. Candy from palmyra jaggery is, however, very good. For jaggery the fresh juice is simply boiled down in open earthen pots over a smoky wood fire; a little lime is probably added, as in the collecting pots on the trees. It is said that 20 lb. of juice produce about 2½ lb. of jaggery, worth about 1 anna.

Cocoanut jaggery is only made near Coimbatore; the process is similar to the above. The produce of 20 lb. of juice is said to be 3 lb., worth something over 1 anna.

Cane jaggery is an important product, and the trade, with that in sugar, might be immensely developed.

For details of the manufacture and the area on which cane is now grown and might be further grown near Coimbatore, see "Agriculture" *sub* *roc.* "Sugar-cane."

Pottery is only the usual porous earthenware pots made by every potter from tank silt; it is coarse-grained ferruginous ware, which turns black and melts into a dirty slag at a moderate heat and will take no glaze. Ample materials are available for good terra-cotta and common stone ware where a pure white colour is not required; the felspar and quartz are excellent and abundant; neither ball clay nor kaolin is found, but grey clay from Trichinopoly, burning a fair cream-white, can be got cheaply, while the red clay procured locally by levigating the red loam, is a fine red clay, burning of a good colour at a moderate heat, and giving good tints of pink and red if mixed with grey clay, felspar and quartz, when it will stand a good heat and take various glazes. Excellent glazed tiles for municipal and other work, and impervious vessels for domestic use, might be cheaply made.

Bricks and Tiles.—These are all ordinary, but can be made of special quality to order; the Sub-Collector's office at Erode is built of excellent table-bricks from the clay of the wet lands near the river. The Madras Railway make very fine kiln-burnt table-bricks at Pódandúr; these are equal to any work. Tiles are very poor; of bad clay, badly shaped and burnt; both pot-tiles shaped on the wheel and other tiles are made.

Oils.—These are chiefly castor and gingelly. Ground-nut oil is not largely expressed, though the nut is grown in Karúr; cotton-seed oil is not known, and probably only the uppam seed would yield a paying quantity. Cocoanuts are not grown in sufficient quantities to be pressed for oil.

Some care is taken with gingelly, a fine oil being obtainable when the seeds have been cleaned of their external colouring matter by washing and attrition. The quantity of oil obtained is 25 per cent. by measure of the seed in husk.

It is usual with ryots to give the Vániyan so many measures of gingelly seed, for which they expect oil in the above proportion; the oil-monger gets his profit from the cake, which is sold for feeding cattle; probably he also gets some oil in addition. If paid, the rate is 4 annas per charge of 12 Madras measures. The process of pressing is that of the common pestle-and-mortar ballock mill, the pestle being rubbed forcibly against the sides of the mortar by a simple arrangement. The process is effective in getting out oil, as it combines attrition with pressure, but it is extremely slow and wasteful of power, partly owing to the immense friction. The maximum quantity of oil obtainable per day with one mill is 12 Madras measures, expressed from 48 Madras measures of seed, being four charges of 12 Madras measures per charge. This requires two pairs of bullocks working alternately, each charge taking three hours. Twelve Madras measures equal about 4 gallons, so that the process is extremely slow, laborious, and expensive. Moreover the oil is dirty, as dust and vegetable matter, including the colouring matter of the seed, are ground into the oil. The hand process of cleaning gingelly is also rude and slow; friction in a revolving barrel would probably clean it better and much quicker. The above remarks apply to ground-nut pressing. Castor oil is chiefly obtained from the larger variety; it is the dirty, nauseous and malodorous fluid known as country lamp oil. It is obtained, not by milling, but by roasting, pounding and boiling the seeds; the refuse is used for fuel and manure.

Iron is now but little smelted owing to the want of charcoal. Buchanan saw furnaces in many places, *e.g.*, near Cheunimalai, Málnúr, etc., where none now exists, and quite recently a well-known smelting village near Kinattukadavu, in the north of Pollachi, has given up the business. A good deal is still made in the forest taluks of Bhaváni and Satyamangalam; solid ore is never used, but only black sand, which is found in the beds of surface streams after the rains are over. This is smelted with an enormous proportion of charcoal in a rude conical furnace urged by the common country bellows; the iron is never completely melted so as to run, but is taken out as a white hot bloom, and at once cut nearly in two by blows from an axe. It is somewhat spongy and full of unconsumed charcoal; it is bought by ryots and Wudders in this state and worked up under repeated forgings by the village amitha. In this stony district, with its hard sub-soil, implements of ordinary English iron are useless, the mamoty edge curving up like pasteboard; hence most of the implements of this sort, especially the Wudders' mamoties, are made of native charcoal iron, which appears to be a tough fibrous semi-steel which takes an excellent edge. The price of good native iron is from 50 to 100 per cent. above that of the English iron found in the markets.

Saltpetre is obtained by lixiviation of the alkaline soils during the hot weather in shallow mud pans; it is then concentrated by boiling in large pans, the produce being impure saltpetre of the first boiling suitable for manure. For a better sort a second boiling is required, and even a third when it is required very pure, as for gunpowder. A by-product is earth-salt.

Carts are made in all towns and even in country villages. They are cheap and good, costing from Rs. 40 to 60 each, and lasting from seven to fourteen years. A two-bullock cart with 5 feet wheels, side frame, and centre pole of ven-teak, karuvela spokes and felloes, axle-tree of ichi or atti, yoke of ven-teak or āla, costs complete Rs. 38 or 40, and will last seven or eight years. If with 5 feet 6 inches wheels, teak spokes and felloes, nave of purusha or vāgei, irbhogam side frames and centre pole, and yoke of ven-teak or thadāsh, the cost will be Rs. 55 or 60 and its life thirteen or fourteen years. Irbhogam, thadāsh and purusha woods are obtained from Pālghāt. The naves are turned in the common dead-centre country lathe, in which the work is set between two fixed centres and driven by a rope passed round the work itself from a separate wheel turned by hand. This lathe is also used for furniture, and very neat and true work is turned out by it; nothing in the way of cabinet work is done, but merely plain cots, chairs, &c. A contractor (Eurasian) at Coimbatore is able to turn out excellent work; Coimbatore builders make very neat bullock coaches, of seasoned wood, thoroughly well painted and lined, and light running.

Paper-making is entered in the census of 1881 as an occupation, but it is not now practised. Only country paper was made, the stuff being partly old paper, partly gunny, reduced to pulp by the trip-hammer worked by the foot, as used for pounding "aval."

There are families of lapidaries near Tirupūr who turn out excellent but cheap spectacles of real pebble (quartz crystals), besides lingams and other vighrahams of the same material.

Metal-workers are rare; gold and silver smiths are of an ordinary kind; common brass vessels are made to a small extent. Good gongs are made near Palladam, the particular mixture being a trade secret.

Coffee-curing is largely carried on at Coimbatore, the produce of the Shevaroy's and part of the Nilgiris coming to Messrs. Stanes' works, where several million pounds are annually cured.

There are steam-cotton presses at Coimbatore, Palladam and Tirupūr, and hand-presses at Erode and Palladam. The saw-gins at Palladam are worked for cleaning the cotton prior to baling.

Bones are steamed and crushed for manure by Messrs. Stanes.

The following statement of factories is taken from a Government order upon the Madras industries for 1883:—

Cotton Press of Messrs. Fischer and Co. at Erode—pressing cotton into bales; annual outturn 151,600 lb., value Rs. 27,324.

Cotton Press of certain Madras merchants at Palladam—pressing cotton into bales; annual outturn 2,670,000 lb., value Rs. 4,82,220.

Tirupér Cotton Press Company (Limited) at Palladam—pressing cotton into bales; annual outturn 1,775,200 lb., value Rs. 3,01,784.

Cotton Press of Messrs. Stanes and Co. at Coimbatore—pressing cotton into bales; daily average persons employed 120; annual outturn 745,500 lb., value Rs. 1,34,000.

Cotton Press of Karimjee Sait and Co. at Coimbatore—pressing cotton into bales; annual outturn 1,306,600 lb., value Rs. 2,24,554.

Coimbatore Coffee Works of Messrs. Stanes and Co.—coffee cleaning and sizing; daily average persons employed 625; annual outturn 4,032,000 lb.; value Rs. 14,40,000.

Muhammad Marakayar and Co. at Coimbatore—tanning skins on the European system; daily average persons employed 92; annual outturn 158,436 lb., value Rs. 1,30,405.

Mr. Simon's tannery at Coimbatore—tanning on the European system; daily average persons employed 42; annual outturn 74,000 lb., value Rs. 55,500.

Pir Muhammad Marakayar and Co. at Coimbatore—tanning on the European system.

Shaikh Adam Sahib and Co. at Mottupálaiyasa—tanning on the European system; daily average persons employed 10; annual outturn 31,128 lb., value Rs. 22,950.

Saiyid Muhammad Marakayar and Brothers at Pallipatti, Karúr—tanning skins on the European system; daily average persons employed 18; annual outturn 35,949 lb., value Rs. 39,804.

Madras Cotton Cleaning Company (Limited), Yakub Sahib's Tannery at Tándoni and Muhammad Kasim's Tannery at Nerúr.

CHAPTER X.

ECONOMIC CONDITION.

THE RYOT.—Status.—Landed rights.—Comparison with peasant proprietors in Europe.—Indebtedness.—Thrift.—Co-operation.—Political attitude. TENANTS.—Status.—Rentals. LABOURERS.—Status.—Wages.—Industries. ECONOMIC POSITION OF THE PEOPLE.—Effects of famine.—Prospects.—Reproduction.—Food production.—District waste lands.—Agricultural development. INCIDENCE OF TAXATION. INCIDENCE OF THE LAND ASSESSMENT.—Former and present rates.—Proportion of the gross produce.—Cornive process.—Results of increase in prices. DISTRICT PROGRESS UNDER RYOTWARI.—Effect of railways and roads.—Price of produce.—Price of land.—Traffic in land.

THE RYOT.—*General*.—Under this head are included all those owning land except Poligars; they may best be described as peasant proprietors holding direct from Government, and complete *de facto* owners of a share of the State land, subject only to the payment of the assessment; labourer-cultivators, men owning no land but mere tenants, or perhaps mere labourers, are not included in this term. But, as shown below, owing to the pressure of population on soil, the universality of marriage at a tolerably early date, the rapidity of reproduction, the custom of equal family division, and the non-recognition of the natural limits of the soil, the ryot class continually supplies the classes below, viz., the labourer-ryots, labourer-tenants and mere labourers. There being practically no industries other than agriculture open to the agricultural class, the surplus population which cannot find room in cultivating the hereditary farms, or is ousted from them by debt or misfortune, cannot turn to factories or towns for subsistence as in European countries, nor has it the outlet of emigration. Hence a large number of almost paupers, continually supplied from above until a famine sweeps off its myriads. The agricultural practice, knowledge and position of the ryot have been discussed under "Agriculture;" it remains to notice his status or general position, which under the Coimbatore system is noteworthy.

This system has no middlemen between the State and the cultivator; the land of the district is divided into fields, each of which bears a fixed assessment, and any person soever who requires a field not already in another's possession can have it by simply applying to the Revenue officer; if there is competition the matter is decided according to the rules. The State charges no price or fee for granting the field, which once granted, becomes the indefeasible property for cultivation of the ryot, who can deal with it at pleasure. He is not allowed to destroy the land, and mineral rights are now reserved in the putiahs granted, but

for all other purposes the land is his own property, subject only to the payment of assessment, which the State demands in return for the use of the land (*vide* chapter on "Land Revenue").

The system of individual responsibility is not of British introduction, but, with modifications and many irregularities, has been immemorial in the district; the Hindu Rājās of Mysore had their survey and field assessment, which was continued and modified under Musalman rule (Buchanan, etc.); neither the *pāṣāyapat* nor the village revenue system ever flourished in modern times in Coimbatore; the assessment was, as a rule, levied individually and not collectively; writing in 1827 Mr. J. Sullivan stated that even before the British advent "joint property" (by the village community) "had scarcely an existence in Coimbatore;" and that "in these provinces the ryotwar survey (1800-1) did not in the slightest degree disturb the existing state of property; no man was dispossessed either of his field or of his farm; each was registered in the name of its occupant, its value was ascertained, and its rent fixed." In 1834 Mr. Drury stated in answer to questions from the Imperial Government that the Coimbatore ryotwar system was "founded on the custom of the country," and this custom is alluded to by Buchanan, who saw in two places the field accounts of Chikka Deva Rājā of Mysore. Owing, however, to the large share of the produce that was formerly taken as assessment, amounting in the last century to 33 per cent. of the gross (50 to 60 on wet lands), and early in this century to 24 per cent. (Sullivan), property in land was then, in general, of little value, and Mr. Sullivan states that in 1815, at the close of the temporary village rental system, no land other than garden was saleable. In these garden lands the ryots had a peculiar proprietary right called *ādlinam*, whilst even on other lands they were "fixed in their farms as proprietors" (Sullivan), and a ryot entering into possession obtained "complete and indefensible possession" (Drury). These remarks, coupled with Mr. Sullivan's assertion that the present system merely continued and did not disturb former rights, show that the individual ryot had been continuously regarded as the actual proprietor of the fields that he occupied. This indefensible proprietary possession has never been disturbed except by the fortunately abortive effort to manufacture zemindary estates, the preliminary to which, viz., that of village rentals, closed in 1815 with "calamitous consequences to the ryot" (Sullivan). Since there is no restriction to the occupation or subdivision of land the whole district is now broken up into about 196,963 small properties, occupied by about as many families consisting of about one million persons, so that the land in Coimbatore is truly "nationalised." This land can be parted with and dealt with in any way, and is the estate of the ryot so long as he pays his assessment.

The assessment has been called rent; this is not wholly correct in the economical sense of the word, since it is a fixed charge settled more or less arbitrarily for a series of years and is liable to increase only upon

proof of general progress; it bears no automatically adjusted relation to the difference between the produce of the best and worst lands in cultivation, and is levied, though at low rates, upon every field, whether such field can yield economic rent or not. It is therefore partially economic rent so far as regards the classes of land above the "margin of cultivation," and in the better classes it may and does take only a fraction of that rent; in the lowest classes, in which economic rent cannot exist, it appears to be a mere land tax, which is paid simply when and because the State landlord can exact it, and in so far as it is paid it raises the price of produce. It is, however, this land which, as shown in the note on coercive process, is cultivated by paupers and for which payment of the assessment is, by consequence, largely evaded. The land in Coimbatore has always been held to be the property of the State or commonwealth; this property may be handed over for cultivation to the ryot, or withheld, but once handed over is, *quod hoc*, the ryot's indefeasible property, to use, alienate, or bequeath, as he thinks fit, subject only to the payment of the assessment. The result therefore is that the tenure is that of a proprietor paying a rent or tax as interest for the use of a share of the landed property of the commonwealth. At one-tenth of the gross produce, this interest amounts to about the ordinary interest on money, and the rate falls as money becomes cheaper. On the higher classes of land it is a lower rate, in the low classes of land a higher rate. It must not be forgotten however that on the one hand much of the large produce on the better classes of land is due to the ryot's own capital, as in gardens, on the other hand that much, as on wet lands, is due to outlay by the State; hence in the former case a low assessment may really be a full economic rent, and in the latter a high assessment may be a low economic rent, the excess being interest upon State outlay. Two Collectors of the greatest experience and sympathy with the ryots, and to this day remembered with affection throughout the district, viz., Mr. J. Sullivan (1815-30) and Mr. E. B. Thomas (1849 to 1862), have repeatedly recorded their opinion as to the lightness of the assessment and the comfortable circumstances of the ryot, and the latter has contrasted the position of the Coimbatore peasant proprietor with that of the English tenant farmer in the following remarks in his Jamabandi report for Fasli 1265:—

"The Coimbatore settlement is now, to all intents and purposes, a permanent settlement, under real ryotwar, and I cannot honestly see what more could be desired for the ryot; he is certainly content, if allowed to be so; his assessment is light, fixed, unvarying, on the soil, not the crop; he grows what he pleases without enquiry; his lease is permanent—it runs on for as many years as he chooses unchanged, but he can reduce or enlarge his farm *ad libitum* by simply making known his wish; any labour and capital he sinks in improvements is entirely untaxed; he reaps the whole benefit. An English farmer has not a perpetual lease; he cannot contract or enlarge his holding at pleasure, he is bound down to a rotation of crops, he must not unfairly rack his land, he is liable to visits from his landlord to

see what state he keeps his farm and buildings in, can cut no timber, and on various points is really far less free than the Coimbatore ryot, and as to the security of the tenure, the best practical test of the ryot's opinion of its safety is, that irrigated land (for rice) will sell readily for twenty and thirty years' purchase (of the rent ¹), garden from fifteen to twenty, and even dry poonjy, if good, for five and seven."

To this remark as to the security of the tenure may be added that the highest price ever reached for lands of all kinds was during the actual progress of the new settlement enquiries prior to 1877, showing the confidence of the ryots that Government would impose on them no inequitable increase of assessment, a confidence begotten of long security and of trust in official declarations. That the confidence was well founded is shown by the fact that the settlement increase practically corresponded with the increase found by an accurate survey, and while it occasionally equalized, it did not appreciably raise the average assessment per actual acre.²

If the Coimbatore ryot is compared with the peasant proprietors of Europe, he undoubtedly suffers by the comparison. In mere agriculture he is behind them, not so much in empirical knowledge as in energy of practice. While their science of farming may be summed up in the phrase—"They adopt the experience and maxims of their predecessors"—used by Mr. Kay regarding the peasants of France, they are entirely behind those peasants in devotion to the land; the minute and patient industry with which the French ryots cultivate it, the assiduity with which they spend every possible moment on it, the economy with which they utilise every foot of it, and the thrift—amounting almost to miserliness—with which they deny themselves in food and pleasure in order to devote more capital to it, find little parallel amongst the Coimbatore ryots, and a striking feature of Coimbatore rural economy is the want of energy and thrift in dealing with space and time; labour is abundant, and, during parts of the year when crops are unusual, might be usefully applied in making improvements; fruit trees, such as crowd the European farms, or, the property of the peasants, border continental roads for hundreds of miles, are hardly to be found in Coimbatore. But if behind the French peasantry, whose ignorance is reported to be so considerable (Kay's "Free Trade in Land," &c.), they still more suffer by comparison with the admirable peasantry of Switzerland, Saxony, and Prussia, where general and agricultural education has for many years not only been systematically fostered by the State, but eagerly sought by the peasantry themselves. Allowing that these latter advantages are, by no fault of the ryots,

¹ "Rent" here means "assessment."

² A real study of the records of the registration officers and of civil suits, with an investigation of the puthana and holdings, will throw more light on the circumstances and economic position of the ryots than any number of mere reports and generalities; such study has not been possible for this manual.

largely wanting in Coimbatore, it still remains that they fall short of the position of the French peasants. The Coimbatore ryot has to pay a land tax equal to about one-tenth of his gross produce, and to this might be attributed some of his backwardness. But it must be pointed out that in Europe not only are immense prices or rents paid for land by the peasant farmer, but his annual taxes on land, house, windows, chimneys, servants, etc., for State, local, and communal purposes, average from 2 to 3 rupees per acre (Belgium, etc.), while his transfer duties are very high, amounting to about 10 per cent. on sales (Blue Book of "Agricultural Interests Commission," 1881). When a French peasant can and does pay up to and above Rs. 1,200 per acre for ordinary unirrigated land, bear the cost of cultivation, pay considerable taxes on the land, pay off the shares of his brothers by mortgages at high interest, and yet has such savings that the French peasantry made light of subscribing the vast war indemnity several times over, there must be mental and moral qualities in that peasantry which are wanting in the Coimbatore ryot, who, with far less initial and subsequent burdens, and the facility and simplicity of life in a tropical climate, is in a decidedly inferior position as regards capital, to the almost equally ignorant but admirably intelligent and prudent French peasant. Coimbatore history, in common with that of South India generally, explains this inferiority; the hopeless misgovernment which for centuries preceded British rule, ground the ryot into the dust, robbed him of all capital, and took away both the chance and the hope of rising to a higher level. Simultaneously with misrule there were the miseries of war, anarchy and barbarous invasions which swept off the ryots and their property, and, while checking population, robbed them of their means of support. The effect upon character was that universally seen in such cases, while the further effect followed of universal and early marriage and rapid reproduction, since the positive checks to population removed even more than the surplus, and abundant land permitted the potential support, however miserable, of families of any size. Hence by custom have arisen a low social standard and a habit of early and productive marriage; the former permitted without social reprehension, free indulgence in the latter, while the latter perpetuated the former; hence the extreme difficulty of rising to a higher level. Moreover, the fact of all the cultivating neighbours being on a low level of social comfort prevents an effective desire for, or removes a great incentive to progress; hence much of the tropical *laissez aller* methods of husbandry, such as the disinclination to economy in time and land or to exertion in unusual modes or seasons; hence also the habit of renting out land and living on the petty proceeds, and the careless expenditure of capital, often the proceeds of land mortgages, on mere unproductive display.

The prospects of the Coimbatore ryot may be suggested by a comparison; a French peasant proprietor, according to the best and most

recent statements, though practised for generations in thrift which has degenerated into penuriousness, in industry which has hardened into unremitting toil for all members of this family, in prudence in marriage and reproduction which has led in the agricultural departments to actual retrogression of population, in skill which loses an opportunity neither in time nor space, is by the law of subdivision so straitened by the minuteness and *morcellement* of his estate, and so burdened by his load of mortgages, that, in spite of a fertile soil, a favourable climate, abundant markets for valuable produce, and vast manufacturing enterprise for the absorption of population and rural produce, he can live only a narrow, unlovely, ignorant, parsimonious life, with no higher aim than that of saving money to pay off mortgages, to retain, or to add to his morsels of land. What then can be expected for the Coimbatore peasant proprietor not many years emancipated from the rigours of tyranny, from barbarous invasions, and from a tyrannous fiscal system; industrious, but not unremittingly so; skilled in his art by reason of the traditional knowledge of ages, but of a general ignorance surpassing that of the French peasant or of the British agricultural labourer; inclined to submissive acquiescence in failure owing to continual uncertainties of season, and to former uncertainties due to war and misrule; dwelling on a soil generally inhospitable, and in a climate of notoriously scant, often ill-distributed, and precarious rainfall; having but a moderate market for raw produce and no manufactures, and yet labouring under a normal increment of population of from 8 to 15 per cent. per decade owing to the universality of marriage at an early age and of unrestrained reproduction, and under a custom of absolutely equal subdivision among male heirs.

Is it strange that, under these circumstances, the Coimbatore ryot, though enabled by a tropical climate to exist upon very scanty produce, or rather, being enabled by a tropical climate to live upon so little that population is free to multiply till the most miserable and treacherously arid soils are in cultivation, should be afflicted with poverty and liability to famine, and a heavy death-rate. Danger of famine is always within a measurable distance in Coimbatore, and each year of safety but intensifies the future danger. Well irrigation alone prevents frequent minor famines.

A good system of general and agricultural education, and the growing independence and self-reliance of the ryot, must be looked to for slow improvement in these matters. Had general and agricultural education made equal strides with the advance of prices and property, the best Coimbatore peasant proprietary might now have compared favourably with that of Europe in its best parts; in spite of drawbacks the Coimbatore garden-owner, that is, the ryot who has sunk some capital in a field with a well, is usually in a fair position, has money in hand, can afford to lease out his property on a high rent, and usually

displays an admirable diligence, fervour, and care in cultivation. It must be presumed that the possession of a valuable property, the prospect of a decent income, the necessity for getting returns on the capital sunk, and probably the very qualities which induced the sinking of the capital, materially develop the ryot's energy and prudence. More might yet be made out of the gardens if the example of the European peasants could be presented before the eyes of the Coimbatore ryots.³

Indebtedness of the Ryot.—There are few data for ascertaining the indebtedness or solvency of the Coimbatore ryot. General experience seems to be that except near towns, and where land is very valuable, as in the black soils of Udumalpet, the ryots are not much in debt; and that elsewhere, if in debt, the ryot's creditor is usually another ryot, and not a professional usurer, as shown by the comparatively small number of suits (*vide* "Civil Justice") and their nature. In the places noted, the ryot is said to have yielded to the charming of the usurer, who has now got hold of many of the best lands. Paradoxical as it seems, the ryots are indebted largely because of the sudden increment of wealth begotten by high prices of grain and land. In the earlier days, when court process was difficult, tenures insecure, registration non-existent, roads bad and few, and prices very low, land had but little money value, and the usurer had therefore little inducement to lend, and little security for loans beyond the standing crops, cattle, etc., of the ryot; hence but few money-lenders and but small indebtedness. With the rise in prices came the influx of capital into the money-lending trade, and the ryot's temptation, which he proved unable to withstand; hence the above paradox, due largely to the fact that education has not progressed *pari passu* with other social changes. In Mr. Fergusson's words of a few years ago, "To a people in the state of civilization to which India has reached, a secure title and a fixed income only mean the power of borrowing, on the occasion of a marriage, a funeral, or some great family festival, more than the borrower can ever pay" (*Indian Architecture*); this is partially true of Coimbatore.

It is noteworthy that transactions in movables (cattle, jewels, etc.), as gauged by the Registration offices, have hardly advanced since 1867, in which year the business registered was 5½ lakhs, and in 1881 5½ lakhs. This may be due to the effects of the famine of 1877-78. The registration books and records of suits would well repay a complete study with a view to ascertain correctly and precisely the answers to economical questions, such as have been but superficially treated here for want of time and opportunity to collect complete and accurate data.

Thrift.—Regarding the kindred subject of thrift there is not much to be said; the peasant proprietors are fairly thrifty, and spend their

³ See the chapters on "Agriculture," and "Education," and "Population," and see "Education."

savings, at least to some extent, on land. The following statement of a Goundan's mode of allotting his net profits is interesting, not as an exact statement, but as indicating the objects of expenditure, viz., one-eighth for charity, three-eighths for gold and silver ornaments (a mode of hoarding), one-fourth for buying land, and one-fourth hoarded. The records of trials and complaints show that a good deal of silver is secreted in the walls of houses, etc., and Goundan females are admittedly frugal and saving; the digging of some 40,000 new irrigation wells, irrespective of failures, and the conversion of dry land into wet, since 1800, have absorbed considerable capital: the expenditure on gardens alone must have absorbed at least Rs. 10,000,000, a very respectable sum considering that money was formerly ten times, and is still five times as valuable as in England, and that there are no capitalists to invest in agricultural improvements. But there are signs that the flood of material progress, which suddenly arose about 1855 from the great rise of prices, and from the actual and relative lowering of the assessment (viz., by the reduction on gardens, and in the fall of the value of money) outstripped the advance in education and intelligence, and that the increment of profit has not worked its full benefit, in that it has led rather to an extension than to a development of cultivation, and that it has begotten a facility for borrowing which has led to an increase in non-productive expenditure; in place of a high standard of comfort, of personal development, and of accumulation upon the estate, there has been a tendency to extravagance and to a scattering abroad. Moreover, the greater areas held by individuals has tended to cause a higher and quite abnormal rate of reproduction, owing to the readier divisibility of the farms,⁴ it not being sufficiently considered that the extra land was too poor to give returns adequate to the increased demand. In 1871, Dr. Cornish (Census Report) expressly spoke of a recent abnormal reproduction, and in 1876 the ryots actually complained to Mr. Robertson, on his agricultural tour, that "their families now consisted of from four to five children, whereas, twenty years ago, three to four children was the average number in a family. They attribute the larger number of their families to the reduced death-rate, many more children now surviving to reach adult years." In the absence of any reason whatever for so notable a decrease of the death-rate, it may be assumed that the increase was really caused by increased reproduction due to increased ease in supporting a family; high prices, when not produced by scarcity, mean prosperity to the ryot class.

Amongst the upper classes there has been probably less thrift; money has been lavishly expended and lands mortgaged to cover the expenditure; a year's income on a single marriage in the family is a

⁴ Though pattaas have not increased of late years, the number of names in each patta certainly has; a few years ago it was usual to enter one name only; now there are sometimes thirty.

very moderate outlay. Reaction has, however, set in among the better educated, many of whom suffer for the errors of their fathers, and the native banks recently established in Coimbatore, with branches, assist in developing thrift by the modes of deposit adopted or available, viz., the regular payment of a fixed monthly sum, regularity being enforced by stringent rules; these sums accumulate for a certain period, when the transactions are wound up, and the money repaid in a lump. This excellent plan of *quasi-assurance* has, it is believed, led many men to save up for social and other expenses, at present considered necessary, instead of expending their full income on receipt, and trusting to the money-lender for the future. Another mode of thrift is rapidly making way amongst educated men, viz., the habit of assuring life; a vigorous Assurance Office in another Presidency has several agencies in the district, and many educated and prudent men have taken out policies; no words can too strongly commend this practice.

Co-operation.—This has to some extent disappeared in Coimbatore, while in some cases it was only rudimentary. The ancient village system was indeed one of co-operation, the village commune being a self-contained organism, an aggregation of which formed the whole body politic; in this the lands were frequently shared in common, and periodically transferred; traces of this system were noticed by Macleod and Buchanan in 1800. By means of the common liability of all villagers to co-operate in a village work, many large schemes were carried out, such as the digging of considerable channels and tanks. Village temples are to this day maintained by village subscription, and the *potlu selavu* or *ur selavu* fund is used for many purposes recognized and unrecognized. The channel system (*vide* "Irrigation") was only kept up, as indeed it was probably started, by village co-operation, and it is the decline of this joint action, the substitution of the modern doctrine of self-interest, and the recognition of the individual as the social unit, that has given rise to much recent difficulty. In matters of cultivation partnership is still practised; a number of ryots plough the field of each one in turn; a garden is frequently worked or rented by a partnership of poor ryots, while the owner and cultivator of a garden occasionally shares the expenses of cultivation. The idea of co-operation is present, and may solve the difficulty of introducing European implements. But inasmuch as there is no science of agriculture, but merely tradition, and no perception even that there is any possible method outside their own, there are no agricultural societies for mutual advancement or stimulation. Co-operative credit banks on the German system^{*} are not yet started, but the idea is indigenous; the germ of it

* These admirable institutions, apparently so adapted for India, are a notable feature in German industrial economies; by these associations single artisans obtain credit as members of an unlimited liability company; in 1877 no less than 1,827 of these institutions were at work with above 1,000,000 members, £28,000,000 of capital actual and borrowed, and doing a business of £110,000,000—(Fawcett's "Political Economy," 1883, pp. 273-4, and Marshall's "Economics of Industry").

is seen in the lottery system, where (say) fifty persons join together and pay a rupee or so per month; each month the Rs. 50 so subscribed is paid over to one or other member according to the fall of the lot, winning members being of course excluded from future chances, but not from the regular monthly payment. This method gives the command of a large sum speedily to some persons, and to each one in turn, and even those to whom payment comes latest get the benefits of enforced thrift for a long period. This with variations is a common practice, and the partners are said never to abuse the trust necessarily reposed on those who win at an early stage. The native banks recently started are admittedly credit banks, and use their funds in granting money on good security, but the share system is peculiar and strictly co-operative or joint stock, as explained *sub coe.* "Thrift." It appears, then, that with care the indigenous germ of co-operation might be revived and fostered into an active and productive growth.

As regards his political attitude the Coimbatore ryot cannot be better described than in Mr. W. T. Thornton's words regarding the European peasant proprietor; indeed in his position as an ignorant rustic, knowing little beyond the confines of his own village except the neighbouring markets or shrines, and as a highly conservative member of a village commune dating from far beyond recent governments, the ryot is still more careless of political change than even the French peasant. Mr. Thornton says of the European ryot, "Provided neither his privileges nor his prejudices be attacked, he cheerfully leaves politics to those who have more taste and capacity for their discussion. The French peasant is no politician; he leaves it to the inhabitants of cities to settle State affairs. The countryman whom Inglis questioned on the subject no doubt spoke the sentiments of his class when he said that "all Governments were alike to him so that they kept at peace and allowed him to live at home."* The ryot knows nothing of political changes unless they affect, as in 1811-17, his plot of land, his tenure, and the amount and mode of payment of his assessment; to him the personality of the local officer is far more than the impersonal and shadowy "Sirkar;" the greed of a local hireling surpasses the dangers from foreign foes, and a foreign war is infinitely less known or heeded than a possible invasion of his claims as a village factionary, as a member of a *nādu* or local division, as a right or left hand sectary, or as a Hindu.

TENANCY.—Every kind of tenancy is found; the casual tenant, who leases for a year the land now of one, now of another; the tenant, especially on inam lands, who occupies often from time immemorial, sometimes on a customary rent, sometimes on a rent varying from year to year; the *vāram* or metayer tenant; tenants who enjoy the profit of land, either wholly or in part as interest upon a loan; tenants who are

* "A Plea for Peasant Proprietors," by W. T. Thornton, C.B., 1874.

so only in name, such as those ryots whose lands, often ancestral, are their own indefeasible property, but who have to pay the assessment to inamdars instead of to Government, as in the case of many village inams; tenants such as the regular ryots of *pālaiyapata*, who in this district are "settled occupaney ryots" having indefeasible rights, and are not removable so long as they pay the fixed customary rentals, which are the old survey rates settled by Government at the original settlement, payable in money, and recorded in the *peimash* accounts; these differ in nothing from Government rates, except that they have not been revised, and that the old garden assessment is still retained. Many tenants are men who have no land of their own, and live from hand to mouth by cultivating the lands of others; some own a small plot of land and eke out a livelihood by renting other lands.

The status of these tenants is various; the highest position is occupied by those who are merely nominal tenants of inamdars, and are really proprietors. Now that land is valuable, inamdars frequently take vexatious action under Act VIII of 1865 in hopes of ousting these ryots. The status of *pālaiyapat* ryots has been noticed; that of other tenants is regulated by custom, but there are practically no settled rights for sub-tenants, save those created by specific contract.

The economic results of sub-tenancy have been indicated under "Agriculture;" only poor ryots will cultivate at what is usually, on the bulk of the dry lands, a rack rent, affording a bare subsistence to the tenant; hence a slovenly and degraded agriculture on such lands. On the other hand, this class of cultivator is unfit, as a rule, for any higher position; he has no capital or means for proper cultivation, nor are his characteristics such as would tend to improvement. As indicated in a later part of this chapter, it is the economic position of this class that causes great anxiety. The tenant of a peasant proprietor (ryot) is notoriously rack-rented, and though custom largely governs and modifies the Coimbatore practice, yet it is evident that the ordinary rentals have increased since 1839, when the customary rent was half of the net produce, instead of half or two-thirds of the gross as now. Moreover, there are indications of further pressure being put upon this class, who are really tenants at will, though they frequently cultivate the same land for many years together; the landlords evince an inclination to turn out their customary tenants for casual bidders who offer higher rents. The position of the tenant is becoming less secure as competition increases, while the increased rent not only deducts from the capital available for actual cultivation, but tempts many ryots to prefer the scanty but easily earned income of a petty landlord to the greater abundance of a hard-working ryot-cultivator. The position of landlord and tenant requires defining and legalizing, and the introduction of longer leases at moderate rents is a *sine quâ non* for agricultural improvement on the poorer lands and for the social improvement of those who cultivate them as sub-lessees of the State property.

Rent of lands.—The rental of lands is a very obscure subject, and is but slightly elucidated by registration records, in which but a very small proportion of leases finds place; nine-tenths of the leases are oral agreements, based on custom and between co-villagers. The understood practice on dry lands is "half varam," in which the tenant pays half of the gross produce to the landowner; the former bears the charges of cultivation, he and his family being usually the cultivators, and the latter pays the assessment. This is practically the metayer system, and has the advantage of combining the interests of the landlord and tenant, while it is elastic enough to provide for bad years, a contingency so frequent as to account for the prevalence of this tenure. On dry lands no conditions are usual other than those here given, and the cultivation is generally poor and frequently a mere catch crop; on garden lands the conditions as to the shares of expenses and receipts differ according to circumstances; for wet lands see below. It is unusual to impose conditions as to crops, manure, etc. A landlord, however, never permits a tenant to dig a well or erect a house on the land, or do anything that would tend to evidence ownership; the objection to the digging of a well is intelligible, from the peculiar *ādhinam* right as regards well lands in Coimbatore, which gave the entire property in land to the man who owned the well in it. The result of settlement enquiries in 592 villages, all in the northern taluks, is tabulated (see Settlement Report) as follows:—

Description of land.	Cases in which 1 is paid to the puttadars.	Cases in which 1 is paid to the puttadars.	Cases in which 2 is paid to the puttadars.	Cases in which 2 is paid to the puttadars.	Cases in which 2 is paid to the puttadars.	Total of all the columns.	Total cultivated area in 592 villages for which varam statements have been prepared.	Percentage of columns 7 and 8.
1	2	3	4	5	6	7	8	9
	ACR.	ACR.	ACR.	ACR.	ACR.	ACR.	ACR.	
Dry ..	200	..	50	99,204-18	1,401	100,855-16	..	..
Wet ..	..	..	..	7,070-76	679	7,140-70	..	..
Dry or Wet not distinguished.	..	400	..	14,700-66	980	16,050-66	..	..
Total ..	200	400	50	120,975-0	3,021	124,646-53	544,314	15

In 1839 the rent of the landlord was, for dry land, usually one half, and for wet lands two-thirds of the net¹ profit (i.e., after deducting cultivation charges), instead of, as at present, one-half and two-thirds or three-quarters, respectively, of the gross produce.

¹ Letter of the Collector, dated 12th March 1839, on the condition of the district.

A common rental on purely dry lands is twice the assessment; on the better wet lands, such as those of the upper half of the Kalingaráyan channel, a common rental is two-thirds or three-fourths of the grain to the landlord, who pays the assessment, the tenant retaining the other one-third or one-fourth and the whole of the straw, and incurring the cultivation charges (*vide* "Agriculture"). When valuable non-cereal crops are grown a money rent is usually paid, and, as in other cases also, often takes the form of a payment in full in advance, sometimes for several years' tenancy; sometimes the amount advanced is to be repaid by the landowner at the end of the tenancy, the profits of cultivation in such cases forming the interest on the loan. There are, of course, many kinds of rental and lease, but the above are the principal.

The following table has been furnished by the Sub-Registrars noted; the increase in the area leased since 1877 is due to the increased habits of registration since that date (*vide supra sub voc.* "Sale value." The triennia are selected as being immediately before and shortly after the famine of 1877-78. Unimportant fractions have been omitted; the Dhárápúram figures for wet lands are in local grain measures.

Office.	Triennium.	Wet.		Dry.		Garden.	
		Acrea leased.	Average annual rent per acre.	Acrea leased.	Average annual rent per acre.	Acrea leased.	Average annual rent per acre.
			Rs. A.		Rs. A.		Rs. A.
Coimbatore Registrar's Office.	1872-75	374	32 2	823	8 1	519	14 10
	1880-83	798	33 3	2,980	4 9	613	12 8
Udamalpet ..	1872-75	167	35 2	567	2 0	263	3 3
	1880-83	193	26 7	2,127	2 6	714	4 13
Kángayam ..	1872-75	..	..	357	1 1	4	3 4
	1880-83	..	mesasores	1,781	1 4	49	7 1
Dhárápúram, ordinary leases in kind.	1872-75	43	680	63	6 9	..	..
	1880-83	78	710	461	3 6	36	4 3
Dhárápúram (Ola-vadebbayam, or mortgages for cultivation).	1872-75	194	616	..	..	..	..
	1880-83	147	725	66	0 14	11	6 6

The Coimbatore figures in dry and garden lands are high, owing to the proximity of good markets afforded by the town and Nilgiris, and the excellence of much of the lands (black); the wet lands are irrigated from tanks fed by the Noyil. In Udamalpet some wet lands are tank irrigated, others are channel fed; the rates for gardens and dry lands appear very low, considering that much of the taluk is black cotton soil. Kángayam has no wet lands, and the soils are very poor and unproductive. Dhárápúram has very poor dry soils, so that their rentals are very low, but its wet lands are superbly productive. The grain measure here entered contains 160 tolnahs of second-sort rice, and is therefore nearly one-fifth larger than the heaped Madras measure,

and holds nearly three pounds of paddy; hence the annual rentals vary from 1,720 to 2,160 lb., or from about three-fourths to nearly one ton. At Rs. 4 per salugay of 80 measures, the money value is from Rs. 29 to Rs. 36½; similarly the only money rented wet lands in the taluk for the triennia yielded Rs. 10 and Rs. 37½ per acre. These large rentals are paralleled by similar rents in Erode, Karūr and Satyamangalam (see also the table); in Karūr rents up to 1,080 measures (of 144 talahs) are known on the best Cauvery irrigated lands, 720 being common. The *clavadeibhōgyam* is a *quasi-mortgage* in which a sum of money is given in advance, the interest thereon being deducted from the rent at the time of paying the latter.

Inam lands are, of course, more readily rented than Government lands, (1) because they have little or no assessment to pay and can therefore be rented at a low rate; *e.g.*, such lands are frequently let for a money rent equal to the assessment on similar lands; hence a larger profit to the tenant; (2) because they are chiefly held by temple and village servants, who cannot cultivate, and who are therefore obliged to let them for what they will fetch.

LABOURER.—The position of the labourer is very precarious; his ranks are increased not merely by multiplication from within, but by additions from the ryot class above, and from those artisan castes or classes whose trade has been ruined by external competition (weavers) or who find insufficient work in their own calling; hence they include the rapidly increasing surplus population of the ryot and artisan castes as well as the ordinary labourer classes, such as Vanniar, Sātānis, Keikalar, Pariah and Pallans. Omitting artisans and ryots these classes numbered 774,369 in 1871 and 655,468 in 1881; the decrease of 118,901 is more than the total decrease for the district, showing that famine fell almost entirely on these classes. It is these then that cause anxiety; there is absolutely no prudential restraint on their increase; they cannot hope to better their circumstances, and they trust that where there are mouths they can be fed; hence their terrifying reproductive capacity, as evidenced not merely by registration statistics in towns, but by inspection of the paracheries and other labourer quarters.* Their wages and employments are something as follow.

Wages.—Wages are tabulated as follows:—

—	Town or country.	Wages per diem.					
		Skilled.	Unskilled.				
			Male.		Female.		
1882	<div> <div> { Towns ..</div> <div>Villages ..</div> </div>	<div> <div>Rs. 6 to 12</div> <div>4 to 5</div> </div>	<div> <div>As. 3 to 4</div> <div>2 to 3</div> </div>	<div> <div>As. 1½ to 2</div> <div>1 to 1½</div> </div>			

* See "Condition of the People" *infra*.

—	Town or country.	Rate of hire per diem.			
		Draught bullocks, each.	Horse.	Pony.	Cart and pair of bullocks.
1882	Towns	As. 6	As. 12	As. 8	As. As. 1½ to 1½ per mile.
	Villages	4	6	5	

Children (chittals) may be taken as females.

The above vary considerably and must not be taken as fixed; the highest wages of skilled labour are seldom reached, and the average may be 8 annas in towns and 5 or 6 annas in villages.

Agricultural labourers are usually paid in grain; monthly wages are from 32 to 40 measures (each holding from 57½ to 64 oz. of second-sort rice) paid all the year round, beside extras in cash and occasional cloths. These have apparently not altered since the beginning of the century (*vide* Buchanan); they had not in 1863 (letter of Mr. P. Grant). Casual wages are from 1 to 3 measures daily according to season and demand, quite high wages being paid at harvest. Women find labour for many months in the year on wet lands, from the collection of green manure to the work of harvest. There is less to be done by them in gardens, and still less on dry lands except at harvest, especially that of cotton, the cost of picking which is estimated at from one-twelfth to one-eighth of the value of the crop. Since the famine there has been a decided increase in the money price of labour; the labourer class was largely affected by the famine, and there is consequently competition for their labour in towns especially, inasmuch that labourers are often hard to get; Wudders have even struck work on being refused the rate of a rupee for 12 cubic yards of easy earthwork, 20 being a normal rate. From 2 to 2½ annas per day for ordinary unskilled male labourers and 1½ to 1½ for females is about the average; hence a man and his wife can earn at least 3½ annas per day, or the equivalent of 12 to 15 lb. of dry grain in husk or 8 to 10 without husk. When paid in grain this would also be about the rate. In well digging by ryots it is usual to pay the labourers chiefly in grain with an occasional sheep for the Wudders; money is seldom paid by the regular ryot.

Town wages, especially those of skilled labour, are high; considering the amount of work done they are higher than in England, and irrespective of the quantity of work, the food purchasing power of skilled labour wages in town is quite equal to that of similar wages in England, where money is five or six times as cheap, and the artisan's wants much more numerous owing to the cold and wet climate and other demands. Ordinary carpenters get 8 annas per day, which will buy about 20 or 22 lb. of dry grain free of all husk (30 to 33 with husk). As his sons usually work with him, and his work is plentiful, and the caste small, he is by no means badly off. It is owing to the high prices of labour

in towns that the drinking-shops there are so numerous and profitable, especially in Coimbatore town.

Village artisans receive grain allowances at harvest from the ryots, and in return make and repair agricultural implements and domestic utensils; the potter supplies pots free of cost to all ryots, the leaf-stitchers (*Āndis*) supply eating plates, and so forth.

Domestic labour is much more highly paid than in former years; native officials frequently complain of the great expenses involved by the more than doubled wages demanded by their servants.

There are no data for a complete comparison of present with former rates of wages, but from isolated statements it may be gathered that money wages have kept pace with prices and that grain wages are the same as of old.

Industries.—In addition to the various kinds of agricultural labour and the specific caste occupations there are several modes of earning money. The ordinary ryot hires out his cart and bullocks, either driving it himself or paying his man; the collection of *āvāram* bark for the tanners gives the Chukkler females a good deal of work, while that of green shrubs for wet fields employs in the ploughing season thousands of men and women, carts and boats. Grass and firewood for towns are a good source of profit; roads, the channels and various public works of Government, Local Funds, Municipalities and Railways, give a good deal of employment, averaging several lakhs of rupees per annum; hundreds of coolies go to the Nilgiri coffee and tea estates for the season; cotton cleaning and pressing and coffee curing employ in the season a good number, from 800 to 1,000 being sometimes occupied at Messrs. Stanes' works alone; tanning employs a good number, and internal traffic is considerable; railway traffic has developed a variety of petty trades, including especially those of cookshops (club-houses so called), and cart driving.

It is doubtful whether Coimbatore can ever be a district of great industries other than agricultural, or, in other words, whether any large section of its population can ever obtain an employment unaffected by climatic conditions. Its geological formations are necessarily almost destitute of mineral wealth, and coal is impossible. A good deal of water-power is available, especially near the hills and at the great anicuts over the rivers; good fuel can also be cheaply grown. Certain industries are practicable, but capital is so slowly attracted, that long ere any appreciable effect can be produced the labouring classes will have reproduced to redundancy; and unless, as is probable, subject to terrible positive checks, will be little affected for good, since slow industrial growth merely means opportunity to reproduce a little further or more rapidly. But since other social and political benefits would arise from such industries, their establishment is much to be desired. Their nature has been indicated *sub* *see*. "Industries;" such are the manufacture of sugar, tobacco, cotton, pottery and common glass, paper or paper stuff, leather, oil, soap, and the chemicals necessary in the above indus-

tries; shops for the production and repair of agricultural and other implements, and so forth. But the technical knowledge and industrial enterprise necessary for new industrial departures, appear at present to be wholly wanting in Coimbatore, while the hereditary or customary disability begotten by the caste system wholly debars the non-artisan labourer from those remunerative domestic industries which employ the leisure days and add to the comfort of the peasants of Germany, Norway, and Switzerland.

CONDITION OF THE PEOPLE.*—Apart from agriculture and specific caste occupations, which are chiefly of the most ordinary and petty kind, it will have been seen above and under "Occupations" (*vide* "Population") that for the rural population there are no industries of importance, and practically none except public works that can be depended on to give good work and wages either regularly in ordinary seasons or at all during a famine. Most of the occupations in the district are either agricultural or dependent on the agriculturists. Hence in a drought which stops agriculture on dry land (that is, apart from wet and well lands, 86 per cent. of the cultivated area), the whole rural labouring population is thrown back upon its savings, upon its employers, or upon the State. Its savings are *nil*, neither wages nor habits permitting of accumulation; its employers are in most cases ryots who, in a grievous scarcity, will, unless they have garden or wet lands, have difficulty in supporting themselves, and cannot, except in moderate scarcities, give their labourers aid; hence upon any general and serious failure a large percentage of the labouring population is liable to come on the State or starve (*vide* table of population *sub* *roc.* "Famines"). The following comparative table, for Hindus only, drawn from the census reports of 1871 and 1881, shows clearly enough the result of the 1877 famine and the classes affected by it:—

Class.	Group.	Population.		Decrease.	
		1871.	1881.	No.	Per-centage.
IV.	Vellalar (ryots and cultivators)	703,370	600,402	13,168	1-87
VIII.	Keshkalar (weavers and miscellaneous).	90,824	81,641	9,183	10-1
IX.	Vanniyar (labourers, chiefly agricultural, and cultivators)	140,698	107,490	33,218	23-6
XI.	Sādāns (beggars, Sudra priests, temple servants and miscellaneous)	103,640	66,068	37,581	36-2
XIII.	Shānār (toddy-drawers and labourers).	62,814	66,517	7,297	11-6
XVI.	Others	140,179	128,402	11,687	8-33
XVII.	Pariahs	230,206	216,270	13,936	6-4
	Total ..	1,477,939	1,345,870	132,069	8-93
				Increase.	
	All others including Brahmans, Chetties, artisans, &c.	248,641	260,473	11,832	4-76

* The following remarks apply chiefly to the existing substrata of society, the labourers and poorer ryots with the persons who depend on them; they also apply less

A few words of explanation are required; the Vellalars have lost slightly, since, though all are ryots, some of them are very poor and have nothing but dry land; these are really labourers owning a little poor land. Keikalars, called weavers, also include a miscellaneous mixed class, often attached to the temples or descended from Dásia. Vanniars are either petty ryots or are hereditarily agricultural labourers. Shánárs in some cases own a little land; others are toddy-drawers; in some cases their palmyras failed, but what ruined them was the decreased demand for toddy and jaggery. "Others" include all petty castes of miscellaneous petty occupations, hill tribes and so forth. Paríals are, of course, the general labourers, and are often weavers of coarse cloths.

The general result is that though Brahmans, Chetties, and the better class of artisans chiefly living in towns and well-to-do villages, with the potters, barbers, and washermen, whose occupations are as necessary during famine as at other times, increased during the decade, the mass of ryots slightly decreased, while the chief losses fell practically on the labouring classes. It must be clearly understood that it was not the ryots proper that suffered intensely as a class; most ryots either have a well or a share in one, or are relatives of well owners, or get wells on rent or lease from wealthy ryots, and these lived and even prospered, as did the wet land ryots, by reason of the high prices; it was only those who had nothing but dry land, or lived by daily labour on dry land, that suffered. Mr. Wedderburn, who was Collector during the famine, expressly states that the ryot class was but slightly represented amongst those receiving relief. The extreme number of all classes under relief in any one month during the famine was 204,325, and this was only reached for one month (September), the average of the two months preceding and subsequent to that month being 105,125 and 80,500 respectively. No statistics are now available for the occupations and castes of the relieved and the dates on which they came on relief, but from the evidence given by the various officers it is clear that the mendicants, agricultural labourers, village artisans, petty ryots and petty shopkeepers were the earliest to come on relief in about the order named. From the only camp return available, and that only for one week, it appears that a good number of Kammálar resorted to the then system of open relief-houses; this is not improbable as residence in the camp was not then enforced; scrupulous attention was, as at all times, paid to caste prejudices, and there are always a large number of the poorer artisans in the position of journeymen whose families would readily resort to this kind of relief. As a fact, however, this caste has not suffered. The other castes entered in the relief-house returns are mainly those above noted as having largely decreased.

It is, then, the labouring classes, petty ryot-labourers as distinguished

directly to all classes, especially to those which tend to descend to the lower strata. The word "lower" seems to be a necessary word, at least in matters of status, wealth, habits and present capacities.

from the ryot class generally, and petty traders—in other words the lowest strata of society—that are the great sufferers by famine, and are the chief objects of relief in such seasons. For economical and administrative reasons it is well to see this clearly; it is the fashion to mourn over the ryot *en masse* as poverty stricken, while it is the lowest strata of ryots and the labourers, and not the bulk of the ryots, that chiefly require to be considered in this respect, and it may fairly be asked whether in England, supposing the other advantages in communications, wealth, and the results of organized private and public charity, including the work-houses, which habitually maintain even in ordinary years a huge mass of the lowest strata of society, were removed, the rural population of England would not have felt the complete failures of two successive seasons and produce at least as widely as the present population of Coimbatore. There was of course much suffering and privation, but of the regular ryot class few have disappeared, only a moderate percentage of lands has gone out of cultivation, and these were solely the worst uplands, generally held by the ryot labourer. That the district is, in common with the rest of India, very poor as measured pecuniarily with England, is perfectly true, but the hereditary Coimbatore peasant proprietor as a rule is, comparatively speaking, fairly off when gauged by a tropical standard of necessities and rural luxuries, and he can resist considerable seasonal stress. It is the surplus population, that which is not hereditarily the land-owning class, that gives most cause for anxiety; and while agricultural progress is greatly desirable for the ryot, and general moral and mental progress for all, it is primarily for the labouring and nondescript classes that great industrial measures are so desirable.

Owing to the diminution of the labouring classes and poorer ryots, not one at present need starve who can or will work, but the future before many years will reproduce the recent past unless real solid industries are developed, unless the characteristics of the lower strata of the people in matters of thrift and prudence and reproduction are altered, and unless they learn to make 5 acres yield what 10 now yield or fail to yield in time of even moderate drought. Population will soon pass its former maximum; the rebound in births after the famine was very remarkable, and the birth rate is probably 35 to 40 per mille, as shown in places like Karūr, where registration is carefully attended to. Allowing even 25 to 30 deaths per mille, the annual increase will be 1 per cent. per annum, so that in 1891 the population will probably be at least 1,825,000, which is near the estimated numbers at the beginning of the famine. The land is certainly not getting more fertile, while the poorest lands are being broken up to raise bread for the increased population; every successive drought therefore tells more heavily, seeing that it is the worst lands that suffer most and most readily in drought. That droughts or at least deficient rainfall are the usual condition of Coimbatore has been shown in the meteorological section and appendix; the scantiness of the population, which did not

formerly require for cultivation the 700,000 acres of poor land which have been brought under puttah within the last thirty years, prevented any notable distress in years such as 1811 and 1837 which would, with the population of 1875, have been famines, but this condition of light population has now disappeared, and the district is face to face with a population dependent and pressing hard on an unproductive soil, in a dry district characterized by a normal condition of scanty and miserable rainfall, and therefore of danger. It is but a gloomy outlook if periodical famine is the only remedy for excessive reproduction, and even a doubling of the produce of the poor uplands only pushes the problem further back. Doubling, or even a large increase on garden and the better dry lands is impossible as the yield is already high, and it is doubtful if the area irrigated by each well can be enlarged, while a good deal of capital is required for new wells, for which good sites are now comparatively infrequent. On poor uplands such doubling, or even serious improvement is improbable, as may be judged by the fact that in spite of a great increase in the capital value of land, the pressure of a heavy population before 1876 did *not* bring about an improvement in the cultivation of poor lands, or increased and determined efforts to make an acre of such land produce 8 bushels instead of 4; the mental constitution and capacity, especially of the poorer classes, are such that mere pressure is insufficient except in individual cases; they will be content to live from hand to mouth by a wretched catch-crop mode of cultivation, and to die like sheep upon the occasion of serious seasonal failure, while the lands themselves are so poor and thin that a good deal of capital is required to fit them for good cultivation, and after all the crops might not repay the outlay. Poverty, ignorance, apathy, improvidence, fatalism, tropical reproduction amongst men, and poverty of soil and deficient rainfall in nature, are the causes that bar progress and produce famines. Nevertheless, individual cases prove that even in seriously bad seasons even a poor field can by proper treatment be made to yield a decent outturn when neighbouring fields produce nothing; such cases being exceptional, prove the general rule, but admit hope. But high cultivation demands much more than mere knowledge; every ryot knows how to get a good crop, but the poor owners or tenants of the vast area of poor lands have not the means¹⁰ or personal qualities necessary to get such crops. When, therefore, no such doubling is probable within a moderate time, and when there is little sign or little hope of manufacturing industries of a stable character producing goods for external consumption, it is difficult to see any other outlook than famine, especially under improved sanitary and medical conditions which keep alive thousands even of weakly persons who would otherwise die. Moreover, agricultural improvement

¹⁰ The above remarks are subject to the suggestions made *sed. see*. "Agriculture" as to the use of human excreta (*vide also appendix*), and the cultivation of small areas by persons dwelling on the lands cultivated.

is but one factor in progress, which depends rather on advance in education, on moral and mental characteristics, on accumulations, and to no small extent on mineral wealth, which does not exist in this district. Agricultural thrift among the Vellalar exists in a fair degree as shown by the great number of wells recently dug and the gardens that flourish under them, but this will not protect the lower classes, who depend on the better classes. In parts of Germany and Belgium the peasant proprietors with individually but fewer acres than the Coimbatore ryot are yet seldom without their bags of silver, but it will be usually found that the progress of other industries supports them by giving labour to members of the family and by creating a demand for their produce which enables them to accumulate a store against the evil day. This is not possible to the Coimbatore ryot, still less to the labourer. For all its appearance by census statistics, which give it the first place for industries other than agriculture, it is really an agricultural district and nothing else; its industries are petty rural industries dependent on the welfare of the ryots among whom the artisans live and whom they supply, and no amount of petty weavers of cheap cloths for district use, petty potters, village artisans, and so forth will avail to protect a district against distress; the ryots are the only capitalists, and they are nearly all very small, so that in times of scarcity it is all they can do to keep alive, and cannot employ others; the wealth of the district circulates chiefly within itself and consists principally of the produce of its soils; little capital comes in *ab extra* to employ its labour, and there are but few industries to supply an external demand, so that if a local scarcity comes, the capital that employed the labourers itself fails and with it the bread of masses.

The reproductive habits of the population must be seriously considered. The industrial arts are backward, stationary, or retrogressive (e.g., weaving), and the effective desire of accumulation is low; hence a very slow increase of reproductive capital. But the reproductive power of the people is absolutely unchecked, marriages are fairly early, and children are born with no check save that of long maintained lactation. The fertility of the population may be gauged by the high birth rate above mentioned, and there being no preventive check, it is *a priori* probable that there would be some positive check. Up to the beginning of the century this was supplied, *teste* history, by internal wars, the fearful incursions of semi-barbarous hordes, frequent pestilences¹¹ and dire famines; the letters of the Madura Jesuit Mission and the pages of Wilks bear witness to all the horrors here noted. The

¹¹ In the seventeenth century a dire pestilence is mentioned by the Jesuit missionaries which swept away one-third of the people, while famines of an appalling character are elsewhere recorded, in addition to the incursions of foreigners and intestine war, robbery and murder, and the depredations of wild beasts or wilder Koravars and Brinjaries. One Catholic missionary (seventeenth century) mentioned that within six months thirty persons whom *he knew* were killed by wild beasts.

result was that Coimbatore had in 1806 a population not much exceeding half a million, or, allowing amply for all errors of enumeration, something less than three-fourths of a million. With the advent of settled British power all the losses consequent on war and invasion, whether direct in slaughter, or indirect in starvation by loss of crops, diminished reproduction and so forth, at once ceased, and the people, freed from external troubles and having ample lands, multiplied exceedingly. With the horrors of war and a good deal of pestilent jungle disappeared many of the deaths by disease, and at least for many years every effort has been made to keep alive the population. The net result was that in 1876 there were about 1,825,000 persons in this district to be maintained on an available capital which, for the reasons given above and because of extreme original poverty, had progressed but slowly. Now, it is axiomatic that when the relative limit¹² of population is nearly reached, population, if not kept down by prudence, will be kept down by disease or starvation. That the relative limit is at present nearly reached for Coimbatore when its population passes 1,650,000 will be shown below; it has already been shown that there is practically little prudential check as gauged by births, and, emigration excepted, the only possible consequence is the positive check of disease or starvation. Disease is being daily more successfully combated, while the peaceful conditions of existence are such that even the infirm and weakly are now reared; the only probable result therefore is that widespread starvation which is called famine. Under tropical conditions, so little suffices to keep persons alive¹³ that deaths by starvation are rare even in bad years, though there may be a very low vitality amongst thousands, but the moment that a wholesale seasonal catastrophe occurs, deaths are necessarily also wholesale. England is continually in a state of, technically speaking, famine, and but for its wealth, its charity, and its workhouses, thousands of paupers would annually starve; it is not therefore wonderful that with little wealth, and no public charities, wholesale seasonal failure should mean wholesale deaths. Emigration to any appreciable extent seems improbable; the census returns for Coimbatore show that only a few persons born in Coimbatore live in other districts, and these are counterbalanced by immigrants. In 1882-83 only 391 persons emigrated; no one left who had the least chance of living in the district; it is however reported that in 1884 about 130 ryots left Dhārāpūram to settle on

¹² By "relative limit" is to be understood the limit beyond which under existing circumstances, e.g., of capital, land, industrial knowledge, etc., population cannot proceed without check.

¹³ Every district officer knows many male and female poor whose food is a little dry grain with wild fruits such as prickly pear and occasionally a little meat or fish; a rag is their clothing and a hovel their shelter; money is almost unknown to them, and a rupee is wealth dreamt of but hardly to be realised. At the same time neither these people nor others fail to increase the population without stint, and the increase in their numbers is in no way restrained by prudential considerations.

lands irrigated by the Tungabhadra; details are unknown. Little dependence can be placed on emigration as a relief of population. This problem of population has to be faced, especially in Coimbatore with its wide stretches of infertile, arid soil, scarcity of rainfall, and frequent seasonal failures. The subject cannot here be fitly discussed, but Mill's axiom is at least deserving of consideration, that society (State or Government) "cannot with (financial) impunity take the feeding upon itself and leave the multiplying free."

Further, while the habit of reproduction is such that in ordinary years, and still more in prosperous times, as in the decade before the famine, population progresses at a very rapid rate, production on the other hand does not keep pace with population, and this for two reasons, (1) that there is little more available land which in the present state of agriculture, prices, and wealth, is worth cultivation for profit, i.e., that will on an average of years yield any surplus above the expenses, and not very much that will yield a bare subsistence to the cultivator without capital; (2) that the agricultural art is stationary as regards the mass of the poor lands, the only existing improvement being in digging wells and in turning a few dry acres into wet.

On the first point it will be noted that the surveyed and assessed area of the district in acres is as follows:—

Year.	Year.	Total revenue surveyed.	Total assessed.	Total occupied including Inam.	Total cultivated.	Popula- tion.	Assessed area per head in acres.	Occupied area per head in acres.	Cultivated area per head in acres.
1881 ..	1881-82 ..	4,286,609	3,519,402	2,632,816	2,163,485	1,657,090	2.2	1.59	1.3

The Revenue survey here mentioned is the old survey, and includes large areas of unhealthy forest and hill tracts which are not really cultivable and are used, if at all, chiefly for grazing; these areas are nominally included in the various potty villages which are here and there to be found. During the recent Revenue settlement, these tracts were mostly omitted, and only the tracts really available for cultivation were included in the assessed area. This area amounts to 2,843,582 acres exclusive of palayapats and poramboke, but inclusive of inams. The poramboke or unassessed area was reduced as low as possible, and consists, except perhaps in Kollegal only, of public lands necessarily reserved, such as tanks, roads, village-sites, &c., or of wholly unprofitable areas such as rocky hills. For all practical purposes for many years to come the area available for food production is the assessed portion of the recently surveyed area including of course inam lands.

Much of the waste land is, under existing conditions, almost useless; data are wanting for an exact tabulation for 1884, but on the completion of the settlement in 1882 the occupied and unoccupied dry lands, exclusive of Inams, were as follow for each settlement rate:—

Rate in rupees.		Occupied in acres.	Unoccupied.
Rs.	A.		
2	0	16,113	63
1	8	223,991	3,193
1	4	409,337	11,774
1	0	549,861	30,438
		1,199,292	45,468
0	12	612,967	65,115
0	8	397,630	56,549
0	6	37,486	37,826
0	4	3,181	3,287
		1,051,163	162,278
Total...		2,250,445	297,745

Of the total waste no less than 64,473 acres, or nearly one-third, is in Kollegal and is chiefly feverish land amongst hills and forests. The ratio of the better lands assessed at one rupee and upwards is 53·28 per cent. of the whole occupied extent, whereas, in the unoccupied area, it is only 21·88 per cent.; as roads now run everywhere and prices are high, it is probable that the higher assessed waste lands are waste because they are unduly assessed or have some physical disadvantage other than that of position. It will also be noted that in the two lowest rates only 40,616 acres are occupied, while 40,613 are waste; this shows the character of these lands either intrinsically or in position; the ratios to the total occupied and unoccupied areas are 1·84 and 19·55 respectively. Of the unoccupied area only 1,432 acres were wet land, and most of this was under tanks, that under channels being chiefly railway B class lands not yet available for cultivation. The bulk of the land is of the lowest classes, and experience shows that these lands are the stony uplands usually far distant from habitations and with but very thin, scanty, and sterile soil. It is questionable whether, at present prices and with present practice, these can be cultivated with any hope of profit, though in ordinary years they may, when actually cropped, yield the pauper or labourer ryot a bare subsistence in return for his labour; it is these lands which in bad years returning barely the seed sown do not even support the cultivator, and both demand and get remission, or are the subject of a useless coercive process resulting in a nominal revenue sale. The settlement investigations show that the outturn on these lands is not more per acre than from 175 to 100 Madras measures according to class, and after allowing for bad seasons the outturn has been hypothetically fixed at 150 to 80 Madras measures of grain in husk for classes ranging from one rupee to six annas, i.e., for 189,428 acres or 91·1 per cent. of the waste area. Hence if the whole be cultivated the total yield in ordinary good years at 100 Madras measures per acre would not be more than 18,942,800 Madras measures or 21,141 tons, which is equal to the bare sustenance of 103,852 persons at the average of 1½ lb. per diem. Up to this limit therefore population might theoretically be sustained on this land in

ordinary years. But practically much of this land is not really cultivable with any continuous success, especially under a rigid demand; seasons are too fluctuating, cultivation too wretched, and the soils too poor to allow of the lands being taken up by poor or pauper ryots with any prospect of getting even a subsistence in *all* years after defraying cultivation expenses other than those of subsistence, while in fact about one-third of this poor land is annually fallowed. Much less is it likely that the fixed Government demand on such lands could in addition be punctually paid over a series of years including at least one or two wholly bad and several indifferent seasons in ten years. It must not be forgotten that the worst lands in cultivation can pay no rent; that if rent is obtained by a rigid demand it must diminish the cultivator's share, and hence that little if any profit can be got in ordinary years, while in less favourable years it is cultivated at a loss and is the subject of nominal and useless coercive process. It is this poor land which in a drought such as that of 1876 is precisely that which cannot be cultivated or yield a crop at all, and is therefore useless and deceptive as a protection, while its surplus in ordinary years is so small as not to permit of a serious accumulation. Hence even the cultivation of the whole of this poor land would be no protection against famine, or rather it would intensify it by permitting population to increase up to a higher limit than if it did not exist, and then failing at the pinch. It is then obvious that the "relative limit," so far as the available area of the land is concerned, will be reached almost irrespective of existing unoccupied waste area, and the recent famine seems to show that that limit under present industrial and social conditions is not far off when the population passes 1,650,000, in other words that population much above that limit is under present conditions redundant, and that Coimbatore is therefore liable at any moment to famine upon a drought similar to that of 1876, which the season table shows has not infrequently occurred earlier in the century.

As to the second method in which the relative limit might be pushed back, viz., the development of the agricultural art, it does not appear that there is any present hope of such a development as would enable the limit to be put back for any appreciable period; neither education nor wealth, nor mental and social habits appear to admit of it. The effective desire of accumulation is low, and hence the increase of reproductive capital and its use in agriculture is but small. This matter has been discussed under the head of "The Ryot," "Agriculture," etc.; progress appears to be extremely slow, and at present hardly perceptible; peasant proprietors are everywhere conservative, especially when ignorant and hereditarily confined to the custom of their fathers as in South India; and while the use of human excreta is wholly abhorrent to their ideas, so that this immense and sufficient stock of manure is wasted, the climate, soil, and state of capital prevent the accumulation of stocks of manure to supply this waste. In none but a wealthy or

new country can this go on, while in ancient countries, such as Flanders and Japan, where human excreta are carefully saved and used, agriculture is in a forward condition in spite of drawbacks. As stated above, it is probable that, *the use of human excreta being rejected*, much of the poorest land would require a considerable outlay on which the return would not, or would hardly, repay the interest, while a trifling outlay would be useless.

The only direction in which there has been evident development is in the extended use of water, the most obvious of all improvements and that which has the soonest reached limit. This can only be obtained by individuals (1) by turning dry land into wet, (2) by digging wells. The former is only occasionally possible and by great labour and expense in lowering the level of high lands bordering channels; the latter has been availed of to a considerable extent. During the past thirty years about 26,000 new wells have been dug, representing a capital of say 65 to 70 lakhs. Nevertheless there has been no advance in rural practice; there is no want of knowledge of the agricultural art, but there has been no advance in the power of adapting practice to modern requirements and circumstances. Even the pressure of population upon area has not suggested modifications of practice, or the necessity of a different method—not in details of actual cropping, but in the system of utilising the land; there is no greater protection against the effects of season, but rather the reverse, as worse lands tilled by the poorest possible ryots are now largely taken up. Nor does it seem that any advance is likely unless with very slow steps; real, commonsense, practical education has made little advance, especially among the productive rural classes; wealth has not been used or accumulated; the knowledge of agricultural science is unsought, or, if sought, unattainable. The Coimbatore ryot is not further advanced than his ancestor of fifty years ago either in capacity or knowledge, and this in spite of railways and a generally advanced administration; his customs and rural economy are the same now as then, though he is face to face with wholly different conditions in the advance of population and the margin left for cultivation. An agricultural and rural system that sufficed then is insufficient now. That progress is possible cannot be doubted; in seasons of serious drought, such as in the north-east monsoon of 1881, there were a few acres of decent crop on land absolutely similar and contiguous to that producing almost *nil* crops, and in one case (that of a Pariah's land) the cholam was almost equal to that of garden; this was simply due to manure¹⁴ and the careful cultivation of small areas. Highly cultivated homestead farms and the use of the natural manural agent would change the face of the district, chiefly by the comparative

¹⁴ The use and value of manure are of course well known; it is in the adaptation of available manure other than that of cattle, the concentration of cultivation by ryots living on small farms, and the devotion of more capital to given areas, that change of system seems called for.

certainty with which good crops could be produced in almost all years (see "Agriculture").

But though private effort in matters of irrigation has an early reached limit, it does appear (*vide* "Irrigation") that there are district public projects, such as that of Colonel Montgomerie's, which would largely tend to secure a great section of the district, if not for ever, yet for a very long period, from any chance of famine, and would at the same time supply cheaply vast stores of food for use in famine times, while the increased demand for labour and the increased food for cattle would both push back the approaching danger to the labouring population and enable better tillage even on lands not actually irrigated, while the increase of wealth and valuable products would go far to develop the district. In this direction at least there appears to be hope even for the immediate future, if the works are soon carried out. It is to be concluded that, unless by great irrigation schemes, or by the development of wells, or by sudden and great rural improvements, production in Coimbatore can never keep pace with human reproduction; that all these are possible, but while the first two are probable, the third, as regards the poor ryots who chiefly hold the land, is improbable.

But with increasing and redundant population and almost stationary production must come a lowering of the social standard of comfort and living; while a great body of ryots remain stationary, the lowest strata must be gradually sinking in comfort with every addition to their ranks. And this process is accelerated by social habits; owing to the intense conservatism, aversion to removal, and inertia of the Coimbatore ryot, to the influence of the caste system which practically prevents a peasant from entering a trade or profession, to the absence of industries for surplus members to engage in, to the absolutely universal custom that every male and female of the population shall marry and marry early, and to the law of equal inheritance and division, the whole country is being parcelled out into patches cultivated by a population ever tending to redundancy, to degradation in the standards of comfort, to destitution of the means and to absence of aspirations of rising in the world. The number of petty puttahs, of which the proportion is very heavy, does not completely disclose the facts, for many of these are joint puttahs and have in some cases as many as thirty names in them (see Appendix III). True that many persons hold in many more than one, but there are thousands who only hold a share in a single petty puttah, and it is these that swell the relief camps in time of famine. The number of puttahs has not increased of late years; it is the immense number of persons now holding under these puttahs claiming petty shares in petty holdings, and living on the scanty produce of them, that should be ascertained and considered.¹⁵ It cannot be doubted but

¹⁵ This continual subdivision into petty holdings must be distinguished from that reduction in cultivated area which has been suggested as a means of improving agriculture; the former merely means so many more pauper ryots rudely cultivating a larger area of

that this tends to social degradation; that this is really the case may be seen even in these days which have succeeded the recent "check" of the 1877 famine. It will be noted by turning to the cultivation area that the decrease in the area actually under food crops is one-twelfth, though the population is less by one-tenth than it probably was just before the famine. Since it is just the worst lands that have gone out of cultivation, and since, on an average, the produce of these is so very small that over 2 acres are required per head, it is obvious that the present produce per head is now more than it was in 1875, and that therefore the standard of comfort is higher; this, however, must disappear within ten years at the present rate of reproduction. To sum up, the district having a poor soil, a tropical climate, seasons of uncertain and nearly always scanty rainfall, a population highly conservative and somewhat slow of movement, uneducated in agricultural sciences, habituated to unlimited reproduction and the unlimited subdivision of property, has apparently reached under present conditions the relative limit¹⁶ of population, a considerable proportion of which is always on the verge of famine. Were it not for the ease with which life can be preserved in a tropical climate there would be deaths by starvation in many years, while a seasonal calamity such as that of 1876 must in these days of redundancy mean wholesale calamity. Practical remedies are difficult to conceive, and if conceived, are slow in operation, and the most hopeful must at present expect periodical catastrophes such as those of 1877. Whether the slow march of improvement can ever protect the district against the tropical tendency to redundancy is a serious question. Meanwhile, when on an average only 4 bushels, each of 20 measures, are produced per acre of crop over tens of thousands of acres, and 5 or 6 bushels over hundreds of thousands (*vide* Mr. Clogstoun's Report, etc.), agriculturists and economists have an ample field for labour, nor need the schoolmaster and engineer complain of lack of work.

Regarding the standard of comfort there are but few data to allow of a comparison with former years. To judge by the pages of Buchanan and scattered allusions in the reports of Collectors, the ordinary ryot now lives much more respectably than eighty years ago; houses, which in Buchanan's time seemed to have been chiefly thatched

exhausted, unimproved, and badly treated soil; the latter means concentration of capital, labour and attention on a smaller area, a practice which would probably tend to limit the increase of families, would certainly render the crops less precarious and would promote the homestead practice which is a sanitary and agricultural desideratum. Where the waste area is, as in Coimbatore, of very poor soil, and the rainfall so precarious, the increments of output successively required for an increasing population will probably be more successfully raised by development rather than by extension of cultivation.

¹⁶ This is not inconsistent with a considerable surplus of food and other produce in ordinary years as noted below, first and chiefly because this section, as stated above, treats chiefly of the lowest strata of society, who do not share in any surplus; secondly, because there is probably no surplus in years of seasonal failure; thirdly, because much if not most of the surplus is not in food grains, but in mere luxuries, condiments, and inedible produce such as cotton, horse-grass, etc.

huts of the conical ¹¹ pattern still seen in hamlets and on the hills, are larger and much more comfortable and frequently well tiled and timbered; more rural luxuries are raised by aid of the numerous wells and wet lands, and more is certainly spent socially; much of the last expenditure, however, is to be deprecated as being an unremunerative expenditure of capital, rendered possible by the increased value of land. But the years immediately succeeding so fearful a famine as that of 1877-78 are obviously unsuitable for judging of the ideas of comfort and of the prosperity of the people.

INCIDENCE OF TAXATION.—The incidence of taxation in Coimbatore for 1882-83 is tabulated comparatively as follows:—

District.	Population, 1881.	Land revenue.			Abkari.	
		Amount of demand, Rs. 1291.	Rate per occupied acre.	Rate per head.	Amount.	Rate per head.
Coimbatore ..	1,657,690	Rs. 26,56,792	Rs. A. P. 1 2 2	Rs. A. P. 1 0 1	Rs. 2,36,692	Rs. A. P. 0 2 3
Presidency ..	30,673,747	444,08,068	..	1 7 2	47,04,792	0 2 3½

District.	Population, 1881.	Opium.		Assessed taxes.		Salt.	
		Amount.	Rate per head.	Amount.	Rate per head.	Amount.	Rate per head.
Coimbatore ..	1,657,690	Rs. ..	Rs. A. P. 0 0 2	Rs. 12,362	Rs. A. P. 0 0 1½	Rs. ..	Rs. A. P. 0 0 4
Presidency ..	30,673,747	4,40,618	0 0 2	4,04,604	0 0 2½	130,08,526	0 0 4

District.	Population, 1881.	Stamps.		Local Funds.		Total.
		Amount.	Rate per head.	Amount.	Rate per head.	Rate per head.
Coimbatore ..	1,657,690	Rs. 1,05,005	Rs. A. P. 0 1 11	Rs. 2,05,242	Rs. A. P. 0 2 6	Rs. A. P. 2 6 5
Presidency ..	30,673,747	52,03,420	0 2 8	46,01,832	0 2 4	2 5 5

The presidency rate per occupied acre cannot be given, as the immense zemindari area is unknown. The rate per head in Coimbatore appears relatively high; this is due to the small zemindari area. Only the peshcush being included in the above presidency income, the true

¹¹ "The merchants and manufacturers are evidently improving in their manner of living, are forsaking their pyramidal or conical huts, and are erecting tiled houses." (Buchanan, 1800.)

rate of assessment per head is not known. The peshcush is about Rs. 51,31,879 and Rs. 27,691 for the presidency and for Coimbatore, while the probable zemindari income is about 149 lakhs (Administration Report, 1882-83) and Rs. 80,000 respectively. Hence the approximate rate per head should be Rs. 1-12-3 and Rs. 1-9-7 respectively. The lower rate in Coimbatore in spite of the high wet rates is due (1) to the small area of wet land, (2) to the poverty of the uplands. Madras and the Nilgiris being peculiar districts have been omitted for purposes of comparison, which is for Fasil 1291. The presidency rates for opium and salt have been taken for Coimbatore; the consumption of the former is insignificant and confined to malarious tracts and towns; that of the latter is unknown. The general absence of wealthy traders and the general dead level in material wealth is shown by the trifling returns under assessed taxes (license-tax), while the small return under stamps suggests a low level in wealth and litigation.

The Local Fund taxation is raised and spent entirely within the district upon various public works and institutions (*vide* Local Funds), such as roads, dispensaries, and schools, which return indirect profits many fold to the ryot. Municipal tolls have been included in this item as they are a tax on general trade. The 58,036 residents in the three Municipal towns also pay an average of As. 6-8 for municipal purposes.

The general impression given by the table is that of an agricultural district of generally poor land, with but moderate trade and a low expenditure on luxuries other than those of rural produce.

INCIDENCE OF THE LAND ASSESSMENT.—The incidence of the land assessment per acre is shown in the following table for a series of years; it is to be specially remembered that up to 1850 money as measured in produce was twice as dear as it was till 1881. The decrease in assessment is chiefly due to the continual reductions, viz., 37 per cent., on all dry lands in the southern division in 1806, several minor reductions in wet land, and the removal of the special garden assessment in 1854 and 1864, whereby $4\frac{1}{2}$ lakhs of rupees or about 20 per cent. were struck off the rent-roll; partly also to the immense area of poor, low-assessed land which has been taken up since 1850. What was practically a reduction of assessment was the former enjoyment of an area amounting at settlement to 7 per cent. of the occupied area free of assessment; this was the area discovered by survey to be in excess of the account entries; e.g., a ryot held nominally 100 acres at nominally one rupee per acre, and paid Rs. 100 thereon, whereas his real occupation was 107 acres, for which he now pays Rs. 107 instead of Rs. 100, *i.e.*, one rupee per acre instead of 15 annas. As a set-off against the reduction there have been the gradual abolition of cowles (grants for years on reduced assessments), which were supposed to be needed to foster cultivation, and the gradual extinction by the progress of cultivation of the pasture rate by which a ryot might hold one-fifth of his land at one-fourth the survey assessment.

Year.	Wet.			Garden.		
	Occupied area in acres.	Assessment.	Average per acre.	Occupied area in acres.	Assessment.	Average per acre.
		RS.	RS. A. P.		RS.	RS. A. P.
1821 ..	56,232	4,20,617	7 7 8	139,770	5,00,039	3 9 3
1851 ..	66,482	5,06,632	7 8 6	109,325	5,56,713	3 4 6
1875 ..	89,708	6,58,340	7 5 5	..	..	..
1881 ..	85,794	6,36,434	7 6 8	..	..	..
Year.	Dry.			Price per garce.		
	Occupied area in acres.	Assessment.	Average per acre.	Second-sort rice.	Ragi.	Kanlu.
		RS.	RS. A. P.	RS.	RS.	RS.
1821 ..	1,077,057	2,74,107	0 14 6	203	90	86
1851 ..	1,173,130	10,47,810	0 14 3	194	85	83
1875 ..	2,217,327	19,72,817	0 14 2	579	176	176
1881 ..	2,167,259	20,12,984	0 14 10	352	124	116

Garden lands, which, being usually in fertile bottoms, are generally of good quality and are therefore assessed in the higher rates, viz., from 12 annas to Rs. 14 have, since 1864, when the special garden assessment was reduced to dry assessment, been included among dry lands; hence the increased rate per dry acre shown against 1881. This increased rate does not appear in 1875, because in that year the area shown is, for at least some taluks, the new survey area, while the assessment is at the old rates; hence an unduly low rate per acre.

By the aid of various remissions, temporary suspensions of individual demand for two or three years (*vide* Jamabandi Report, Fasli 1265), and by striking out of the demand items such as the usually heavy ones of amounts due by "paupers, deceased or deserted ryots" (*vide* Collector's letter, No. 137, dated 4th July 1873) the assessment up to 1850 was paid and paid punctually, i.e., within the fasli, to the end of which the instalments then ran; there was, however, in many years a great falling off in area which showed that many lands of the poorer sort were abandoned, and as the area then in occupation was comparatively small, this relinquishment meant that a living could only be made out of the better lands at then prices. This is not wonderful when prices are compared with assessments, remembering specially that a bad year meant distress for want of sufficient crops to feed the ryot and his labourers and pay the demand, and that from the absence of communications there could be little import of cheaper grain, while a good year meant also distress, since there were no roads and railways to take off the surplus, so that the markets were glutted and prices were abnormally low. But as a rule the assessment was paid punctually when its incidence, after

deducting all remissions, was, as in 1854, Rs. 1-6-2 per occupied acre, and prices half of the present prices, as against Rs. 1-1-10 without deducting remissions in 1882-83, and further, a good deal of profit was made, especially upon garden lands in spite of their assessment of Rs. 3½ or 4 per acre, for wells were frequently dug, so that instead of 22,000 wells as in 1800 there were 34,511 in 1854; most garden lands were saleable in 1839, which however was not the case with other lands. *A fortiori* therefore there must be considerable profit in 1881, when the assessment averaged much less in actual money than it did up to 1854, while money had decreased in value by one half. This remark applies to the land in cultivation before 1855; the lands subsequently taken up have been of the worst kind, and their low assessment has tended to decrease the total average; that these are saleable is not yet proved, and even if saleable they are so in a much lower proportion than other lands. But on the whole the assessment, including the charge for water on wet lands, may be calculated at not more than one-tenth of the gross outturn and not one-fifth of the net, except in the low classes of land, assessed at 12 annas and under. Assuming that so little as 1½ lb. of grain in husk is required as food per head,¹⁹ a population of 1,650,000 requires about 336,000 tons of food-grain per annum; of this, 91,682 acres of paddy at 1 ton²⁰ each account for 91,682 tons, value, at Rs. 40 per ton, 36½ lakhs. The balance, valued at Rs. 35 per ton, is worth 85½ lakhs; total value, of food grains only, 121 lakhs. To this must be added the value of products such as sugar-cane, plantains, betel, cocoanuts, turmeric, tobacco, chillies, and other condiments, oil-seeds, horsegram, and cotton, which in 1292 were grown on 521,824 acres, and produced crops worth at least 55 lakhs. Adding 10 lakhs for seed and wastage, and 14 for export of raw produce other than gram and cotton, in all 24 lakhs, the value of grain and produce as above is 200 lakhs. The surplus of 24 lakhs is estimated as low as possible, and is probably below the mark, nor has any allowance been made for grain storage—though this is certainly considerable, seeing that large stocks of seed-grain were in hand even at the end of the famine, and that the practice was once universal in this and neighbouring districts—nor for hides, manure and vegetables, nor for grain given to cattle and runs, nor has the value of straw been considered, nor of the pasture

¹⁹ Dr. Cornish assumes 1½ lb., and he is unlikely to be far wrong; it is not clear whether he means grain in husk or grain without husk; if the latter, the figures in the text must be raised by about ¼ for dry grains and ½ for rice. 1½ lb. of dry grain in husk is probably a low average, since it turns into 14 or 15 ounces of eatable grain.

²⁰ One tun=900 M. measures at 2½ lb. each, is a fair average; most of the above lands are channel fed and produce two crops, each of which will yield 800 to 1,000 measures. On the other hand a good deal of the wet land produces only one crop, or is under tanks and produces sometimes nothing, and often very little. The immense outturn is, in itself, suggestive of the vast drain upon the fertility of the soil caused by the neglect or rather rejection of human excreta, properly treated, as a principal manure agent (*vide* "Agriculture" and Appendix VII-II).

on fallow lands, although the full assessment on all occupied lands has been included in the total assessment; these items, including 10,000 tons of cotton seed and a large amount of oil-cake, are certainly worth 30 lakhs, while the dairy produce of 2½ lakhs of cows, and the meat of about 2 lakhs of sheep and goats annually killed, must be worth at least 12 lakhs. Moreover, from the gross assessment of 26½ lakhs, about 3 lakhs should be deducted as the price of water supplied to wet lands, which is not really an item of land assessment, but is interest on Government outlay. Probably one-eleventh nearly represents the incidence of the true land assessment upon the total outturn of all kinds of agricultural produce. In 1828 Mr. J. Sullivan stated that the ryots returned the assessment as one-fourth of the gross produce; this was possibly overstated, but in any case the great modern reduction is due (1) to the great increase of prolific gardens and reduction of garden assessments, (2) to the relative fall in money. Gardens now pay only from Rs. 12 to Rs. 2 per acre, while they produce not less than 1,400 lb. per crop per acre cultivated with grain, and much of this area bears two crops per annum. Much of this produce is however due to the capital of the ryot sunk in expensive wells and apparatus, abundant manure and continuous labour, and must therefore be credited to him only. The large produce on this and on the wet lands and on the better class of dry lands, shows how little (say 200 lb. or 4 bushels) must be the average yield on the lower class of dry lands, since it is not probable that the *average* gross produce of the district is very much above the foregoing amounts. No good account has been obtained of imports and exports of food-grain; the latter probably overbalance the former, as Bangalore, West Coast, and other merchants resort largely to the wet villages for buying up paddy, and to other villages for other grains. Rice is not much consumed in the district by the ryots and labouring classes, so that it is an article of considerable export, and only the finer kinds are imported. Dry grains are ordinarily not imported. Hence in ordinary years the district produce more than suffices to feed the population. The land assessment in itself has nothing to do with poverty amongst the people; ¹⁸ the large practical decrease of money assessment produced by

¹⁸ It has been supposed that the admitted increase of coercive process is the result or increased revenue pressure and increased poverty. The history of the Coimbatore district disproves this and shows the true reasons. Coercive process does not appear to any appreciable extent till 1865, and for years previously there were absolutely no sales of property for arrears; since that date it rapidly increased. Among the various causes which begot this increase is the greater publicity by means of newspapers, the Post Office, and so forth, which effectually stifled illegal or irregular forms of process, while Act II of 1864 enforced legal but cumbrous remedies; the cautious procedure of the Act led to an increase in process as soon as the ryots discovered the delay that must take place; and this delay is a constant difficulty, especially since to the ryots money is worth 15 per cent., while Government charges only 6 per cent. Another cause for the increase is absenteeism, largely due to the great increment in profits subsequent to 1860, especially on the richer lands; these are frequently held by outsiders and non-cultivators, who are not only well aware of the slow action of the law, but are not resident in the village. Another cause is

the rapid and vast increase in the price of produce, has been very sudden, while there has also been a large actual decrease since 1854 and 1864 in the removal of the garden assessment; nevertheless, no commensurate benefit²⁰ has followed; the effect of this, and of the great reductions on gardens amounting to almost 20 per cent. of the total land revenue, was merely to induce a sudden and undue extension of dry holdings beyond what the ryots could profitably and properly cultivate. Moreover, a great many ryots have been enabled to raise large sums on the mortgage of their lands and spend them in show; others live idly by leasing out their lands to labourers on a rack rent; neither property nor progress has advanced in the same degree with opportunity. The sudden influx of wealth without labour has induced frequent extravagance, an increase obtained without labour has been

unpunctuality and dishonesty on the part of many village officers, and a further one is the great increase of work to the higher officials, who can no longer give their undivided attention to the revenue, as in the first half of the century, or even up to 1861 and 1871, when progress, the Penal Code, Local Funds, and other Acts brought great increments of work. Another chief cause of increased process is the increase of labourer-ryots; a villager, however poor, can get land for the sowing, but the only land available is the wretched upland, which can only be cultivated for a profit above that of bare subsistence in fairly good years; hence as soon as the pauper cultivator has got in his scanty crop, he permits the land to be attached and bought in by Government for the arrears of assessment, which of course he does not pay, and as the land has no sale value and the ryot himself is a pauper, the matter ends in large nominal arrears, to be eventually written off. Seeing that lands in the margin of cultivation can pay no rent, it is a necessary consequence that when the State-landlord attempts to enforce the levy of its demand, which practically amounts to a share of the cultivator's subsistence, payment is evaded, coercive process resorted to, and the land abandoned. Good lands seldom or never come to actual auction unless there is some trickery, as is not infrequent. One more cause of increased revenue process, as well as of non-progress in the culture of dry lands, will be explained by the table of holdings entered in the appendix. In 1854 and 1864 4½ lakhs of rupees were struck off the rent-roll by the abolition of garden assessment: instead of applying this immense saving to the development of existing holdings, the ryots in most instances rushed for more land, which was all of the poorer soils, thus perpetuating their money obligations while relatively diminishing their power of meeting them owing to the low productive power of the newly taken up land. Hence, as stated, it is not the pressure of the assessment that has caused poverty, but that circumstances have brought to the front a poverty which always existed, but not previously in direct relations with Government. It is not surprising that nominal coercive process should be widespread, since the poorest lands can pay no rent, and must therefore be frequently unable to pay a considerable tax; it is clear that since it was practically non-existent before 1860, coercive process was not then caused by pressure of the assessment; *a fortiori* such pressure is not the cause upon lands then in occupation, now that, acre for acre, assessments are considerably lower, while prices are far higher. It is the vast stretches of very poor land that are the cause of coercive process, except in such cases as are covered by the first two reasons.

Figures subsequent to the famine are largely nominal, since most of the sales were nominal and solely due to the death or desertion of the pattahdars. Such sales were necessitated by the rule that pattahs cannot be cancelled except upon formal relinquishment by the pattahdar, or upon revenue sale or Civil Court certificate.

²⁰ Agricultural wages are chiefly paid in kind, and not in money, and have practically remained the same from time immemorial; hence the actual expenses of cultivation have but slightly increased with the price of produce, abundant labour having been in competition, at least before the famine, and new industries being but recently opened, wages remained stationary. Hence most of the increment of profits due to the rise of prices

discounted at pleasure, so that many important families owning considerable areas of the richest wet land, which has increased in value tenfold within thirty years, are steeped to the eyes in debt, for which they have nothing to show. The continued subdivision of properties also prevents the establishment for a series of generations of substantial landholders who can pioneer progress in agricultural and rural economy.

It is not then to any reduction of assessment, but to an improvement in the ryot himself, that progress must be looked for; the entire removal of the assessment would not yield him more than half as much profit as that presented to him by the development of trade, the progress of population, and the consequent doubling of prices which ensued between 1855 and 1875; if then he was flourishing (*teste* Mr. E. B. Thomas) in 1855, he should be prosperous now. This at least holds good for the payment of the assessment,²¹ which is actually lower per acre than in 1854, and for the purchase of all foreign goods, such as cloths, iron, etc., which are unaffected by local prices, and have even fallen in money value, and for salt, while it is incontrovertible that within the last thirty years the increased profits of cultivation, combined with more abundant capital, have raised rents and the prices of land to a very great extent beyond those of the first half of the century. The results of the famine do not negative the fact of general prosperity, for as shown above, the famine chiefly affected the labourers, while the country does not exist where an almost total failure of two seasons following on a previous bad year would not, but for State aid and private charity, ruin, if not destroy, the lower strata of a class wholly living by daily labour upon very poor land.²²

PROGRESS OF THE DISTRICT UNDER THE RYOTWAR SYSTEM.—The more general question of the progress of the district under the ryotwar system is an interesting one. The system is that each farmer holds direct of Government, without any middleman; he holds indefeasibly and in perpetuity, subject only to the payment of the assessment, and can contract his farm at pleasure or enlarge it, if land be available, though Government cannot force him to do the one or the other. This has been the system for seventy years with a few restrictions in the first half of the century, which, however, were easily evaded, while the removal in 1854 and 1864 of the impolitic garden assessment, which was really a tax on the profits of the ryot's capital, left

came to the ryot. Moreover, since the ryot ordinarily produces the chief items of his needs, and pays for little *à extra* except for cloths, his domestic money expenditure has not increased *pari passu* with his receipts, and it may therefore be stated that the rise in grain and land prices has greatly benefited him. The immense rise in the prices of land itself shows the rise in profits.

²¹ It must be remembered that the rise in prices was not due to a universal and absolute fall in the price of silver, such as took place subsequent to 1875; the fall in money was only relative and was due to the rise in actual value of district produce.

²² For a review of the Combaratore ryot's position see *supra* vol. i. "The Ryot."

him with few, if any, grievances. Even these restrictions were counterbalanced by remissions, by permanent and temporary cowles, by reductions of assessment, such as the pasture assessment, and by his holding an unpaid for excess of 7 per cent. All these anomalies have now been swept away. The remarks in the foregoing pages regarding population, prices, assessment, and rentals, largely answer the question as to material progress; briefly it may be noted, (1) that whereas up to 1850, or at least in 1839, only about one-eighth of the dry land, three-fourths of the gardens, and one-fourth of the wet land was saleable, in 1884 the bulk of the dry land has a price ranging from As. 4 to Rs. 50 per acre; all gardens are saleable, and are worth from Rs. 50 to above Rs. 100 per acre, inclusive of the well, while wet land is also wholly saleable at an average of from Rs. 250 to Rs. 300; (2) that a very large proportion of the lands bears a rental of one-half of the gross produce, whereas in 1839 a smaller proportion bore a rental of only one half the net produce, *i.e.*, after deducting cultivation expenses; (3) that interest has decreased, mortgages on landed property being now freely accepted at 9 per cent., whereas in 1839 interest on such transactions was from 12 to 18 per cent. and higher; (4) that trading capital now turns to land as an investment, and is willing to accept from it a return of 6 per cent., whereas in 1839 it was declared that trading capital did not invest in land; (5) that wells have increased from about 22,000 to about 55,000 in actual use, representing capital permanently sunk since 1800 of at least 100 lakhs, besides that sunk in wells not now in use, and a floating capital of about 40 lakhs employed in annual expensive cultivation; (6) that thousands of acres have been turned from dry land into wet; (7) that the cultivation of very valuable products such as sugar-cane, turmeric, cocoanuts, plantains, *etc.*, has largely increased; (8) that in the recent unprecedented famine (1877-78) it was not the ryot class who suffered severely, save only those who depended solely on dry land.

Effect of Railways, &c.—The economical results of the administration generally are similar to those for the presidency. Special note must be made of the economical effect of local roads, railways, and the land revenue system. From various reports it is known that in 1800 there were practically no roads, but merely tracks; there was not a cart in the district, and what traffic existed was carried on by pack-bullocks and ponies, and by basket boats on the Cauvery. The result was, not only that all imported commodities were dear, but export trade was insignificant, and only in valuable articles, such as ghee, spices, and so forth. Grain could not be moved, so that prices depended on local scarcity or abundance, with the result that substantial ryots were no worse off in bad years than in good, for storage was a necessity, so that deficient crops were supplemented from the surplus of good years, which then fetched very high prices; while in good years, especially if consecutive, the markets were glutted, prices fell heavily, and ryots who were compelled to sell in order to meet Government and other demands,

were ruined by their own superabundance. This reproach remained for many years, so that the average prices between 1849-53 were lower than at any previous time, while in times of famine, as in 1824 and 1837, the difference in prices between famine and non-famine districts was very serious (Board's Proceedings, No. 3429A, dated 19th December 1878). There are, however, now in the district above 1,500 miles of metalled or gravelled roads in good order, besides numerous cross roads and village lanes, and 147 miles of railway (Madras and South Indian). The result of this improvement is an immense internal traffic between the various trade centres, such as weekly markets and towns, and a considerable import and export trade in all kinds even of heavy produce and goods, in which thousands of carts²³ take part with the railways. Every village has several, and every town hundreds of carts, which are extensively built in many places. The value of the rail-borne traffic has not been ascertained; but one or two facts may be noted: (1) that in the late famine grain was poured in by thousands of tons, while the price of rice at the height of the famine differed from that in Tanjore, whence it was largely supplied, by only about 3 lb. per rupee; (2) that private trade has been so stimulated by the railway that at the least hint of scarcity in any other district or province grain is at once moved; e.g., in the early months of 1884 scarcity seemed imminent in North India, and the Coimbatore railway stations were at once crammed with grain *en route* northwards; (3) that trades such as the considerable tanning industry, coffee growing, etc., have been begotten by the railway, which carries the products cheaply to the coast; (4) that upon the making of the railway,²⁴ prices, to the great advantage of the ryot, speedily doubled owing to export facilities; the marginal table shows this clearly; with this great rise in grain

prices, land prices also rose as elsewhere shown, so that land, especially near the railways, is now worth from six to ten times its value when the Madras railway was made; (5) that the production of valuable crops has been greatly stimulated; tobacco, which has long been largely grown owing to the West Coast demand, being ex-

Period.	Pounds per rupee.			
	Clean rice.	Ragi.	Kambu.	Cholam.
1809-13 ..	47	107	101	99
1819-23 ..	45	88	83	81
1828-32 ..	49	101	108	89
1843-53 ..	63	127	129	109
1864-65 ..	23	44	45	39
1870-74 ..	25	62	54	49

²³ From 1st June to 30th November 1883, 14,200 laden and 14,424 empty carts, besides horses and pack-bullocks, were registered as crossing the Amaravati near Dhârâpuram.

²⁴ It is not to be understood that railways were the sole cause of the rise in prices; they were but one probable factor in that they enabled grains to find their level instead of being artificially kept down, and in that export of valuable products was largely rendered possible; the vast and recent increase in such products, as well as in cotton, is thus explicable.

cepted, valuable garden produce is more largely grown. It is to be noted that railways cannot yet compete with carts for local traffic of say 30 miles run, owing to the necessary delay in getting trains, and to the low rates at which ryots can afford to hire out their carts in the non-cultivation season. Owing to the latter reason, and also to the train mileage and break of gauge from the northern and middle taluks to the south, a great deal of produce, especially cotton, is sent south by carts; the often-proposed railway from Pálghat to Dindigul would much facilitate trade.

Prices of Produce.—The tables in the Appendix and in the preceding paragraph show clearly the alteration in prices of produce. It can hardly be doubted but that one factor in the rise was population. Up to 1840 population was comparatively scanty and reduced by famines and outbreaks of fever, &c.; but with the establishment of a settled land system, and with a fairly good cycle of seasons subsequent to 1840 population rapidly increased, so that an abnormal rate of reproduction was found in the census of 1871, when population was 1,763,274 as against 1,153,862 *plus* errors in 1851. This rapid rise led to the cultivation of but poorly productive soils, viz., the dry uplands, distant from the village head-quarters. On these lands the returns are disproportionately costly, since seed, ploughing, weeding and harvesting are nearly as expensive as on better lands, and the assessment, though lower, has equally to be paid. Hence a necessary rise in prices; of this the whole value has gone to the ryots cultivating the better lands, since their cultivation charges are usually paid in grain; this surplus grain remains constant, but is twice as valuable, while a less quantity serves to pay the assessment. About the same time communications were largely opened up, so that surplus stocks, which in bad years kept the market down and in good years glutted the market, were rapidly removed; hence a constant upward tendency of grain, since the surplus in good years was removed, while bad years intensified prices. Hence a great increase in the price of land and increased facilities for reproduction, which in turn caused a still further resort to poorer lands and consequent further rise in prices. The tables of grain prices with that showing the areas of land under occupation will illustrate the above, and the remarkable fall in prices after the famine, when population was reduced by about 112,000 and the cultivated area by about 130,000 acres, the bulk of which was in the very poorest land, corroborate the above views; there can be no doubt that irrespective of the fall in silver, prices will, ten years hence, have attained their former height.

Price of land.—The price of land has been frequently adverted to, and will now be discussed. Information has been got from the registration offices and elsewhere, but it is to be noted that registration statistics do not throw full light on the prices of land as supposed; (1) because, prior to 1877 sales of land under Rs. 100 were not compulsorily registrable and were not registered; in other words, sales of the poorer classes of land were not registered at all, since there was at

that time no object in the registry of optionally registrable documents as there is now, when such documents take precedence if registered; hence before 1877 no true deductions as to the price of land *generally* can be drawn; in fact the presence of many thousands of transfers in the Revenue Department shows that but a fraction of sales prior to 1877 was registered; (2) because the classes of land sold are not stated, so that it cannot be known whether the lower and poorer sorts were proportionately represented; (3) because it is certain that much of the poor land has no sale value, and therefore could not possibly appear, unless with other lands, in registered sale transactions; (4) because good and bad lands are often mixed up in a transaction, and the bad land may be merely thrown in, the real price being that of the good land; (5) because an examination of the figures shows that in many cases the areas sold were so petty as to indicate that they had some special value. A very thorough examination of the registration books with local enquiry and examination can alone give true returns, and that only since 1880. It is certain from local inquiries and experience during several years, that much dry land has no sale value though frequently in cultivation; a ryot will let it be sold for trifling arrears, and at the sale there will be little or no competition; while attempts to obtain the value of arrears from new darkhastdars for lands which have come into possession of Government by sale are usually futile. It being granted that the worst lands in cultivation can ordinarily pay no rent, it follows *à fortiori* that when the demand for assessment is enforced, involving a diminution of the cultivator's returns, there cannot in such cases be a sale value; hence such land can hardly appear in the returns except when lumped with good land. When then the average price of land in a taluk is mentioned, all that is meant is the average price of land that happens to be registered, especially if before 1877.

Registration results for a series of years are as follows²³ :—

²³ The following table is taken from the Settlement Report; this having been written only in 1875 the above remarks relating to registration before 1877 are applicable :—

—	Krodo.			Sityamangalam.			Bhavani.			Cumbatore.		
	Cases.	Area.	Average per acre.	Cases.	Area.	Average per acre.	Cases.	Area.	Average per acre.	Cases.	Area.	Average per acre.
Wet	348	497	238	142	300	172	23	59	92	150	634	207
Dry	51	222	57	35	154	87	205	1,348	30	165	1,481	37

The cases were not selected; each case was inspected to see that no extra value printed by reason of walls or buildings, etc.; and the settlement officer concludes that the statement may be accepted as correct. Some comment, however, is necessary. (1) The dry land sales are only 418, including only 3,304 acres in a period of about eight years; that this was, even approximately, the area sold in five taluks comprising 1,191,152 occupied dry acres is impossible, especially if land approached the value given in the table, and

Taluk.	1828-29 to 1872-73.			1873-74 to 1877-78.		
	Wet.	Dry.	Garden.	Wet.	Dry.	Garden.
	Average price per acre.	Average price per acre.	Average price per acre.	Average price per acre.	Average price per acre.	Average price per acre.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bhavani	107	62	230	160	106	411
Coimbatore	464	106	289	484	160	568
Dhármapuram	476	44	172	556	34	169
Erode	229	36	146	404	65	194
Karúr	738	41	204	823	41	231
Kollegal	132	42	..	107	43	..
Palladam	283	66	148	209	47	137
Pollachi	109	36	..	104	35	..
Satyamangalam	211	10	82	296	66	123
Udamalpet	381	79	82	394	72	63
Zamindaries .. .. .	..	42	65	..	90	49

Taluk.	1876 to 77 (just before famine).			1877 to 1878 (during famine).		
	Wet.	Dry.	Garden.	Wet.	Dry.	Garden.
	Average price per acre.	Average price per acre.	Average price per acre.	Average price per acre.	Average price per acre.	Average price per acre.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bhavani	41	161	265	200	231	693
Coimbatore	723	292	150	379	167	175
Dhármapuram	633	41	163	453	31	121
Erode	385	89	273	637	70	178
Karúr	960	41	229	809	32	269
Kollegal	153	40	..	75	56	..
Palladam	310	43	116	277	40	145
Pollachi	167	32	..	148	28	..
Satyamangalam	360	172	112	383	22	97
Udamalpet	427	66	60	403	50	80
Zamindaries .. .. .	..	33	34	..	25	42

considering the density of the population, the eagerness for land in most of the taluks, and the large sales registered subsequent to 1877. Indeed in Erode and Satyamangalam the smallness of the area sold shows that the prices obtained, or the reasons for the sale, were exceptional, since the wet land sales were more than double those of dry land, whereas the wet area in those taluks is not above 4 per cent. of the whole cultivable area. (2) As stated above, these are open to the objection that only valuable or at least saleable lands come under registration. (3) Except in Bhavani there seems an undue proportion under the higher classes as might be expected from the second reason. As regards Erode the sales only refer (*vide report*) to the lands close to the Kalingarayan channel, and these are notoriously valuable, being used for growing the food of the labourers, and fodder and pasture for cattle used on the wet lands: most of the lands are held by wet land ryots, as the proverb says "Get dry lands and garden close together." *A fortiori* dry land and wet land. The minute areas sold in the higher priced lands show that they are exceptionally valuable, and in Erode, possibly irrigated by baling from the channel; e.g., Erode lands priced at the enormous rates of Rs. 224 per acre were only 4.48 acres in area, and these were comprised in 3½ cases, or 1½ acres per case. Other lands priced at Rs. 223 were only 1.26 acres and were comprised in 4 cases or 31 cents per case; in Coimbatore

Office.	1878-79 to 1882-83.					
	Wet.		Dry.		Garden.	
	Total area sold.	Average price per acre.	Total area sold.	Average price per acre.	Total area sold.	Average price per acre.
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Aravakurichi	123	465	11,321	15	572	49
Avanashi	143	117	2,310	13	4,564	31
Bhavani	132	73	4,166	15	1,299	45
Dhārāpuram	797	500	9,135	11	2,551	24
Erode	705	368	7,531	24	76	83
Gopichettipālaiyam	1,057	277	9,769	14	461	83
Karūr	637	113	1,968	37	..	78
Kollegal	4	100	10,245	16	258	78
Kāngayam	86	123	1,426	8	292	55
Mettupālaiyam	290	162	11,131	23	3,999	62
Palladam	111	60	13,771	21	..	..
Perundurai	372	145	33,874	25	433	62
Pollachi	1,348	219	2,387	19	1,505	55
Satyamangalam	1,068	294	23,268	22	713	57
Udamalpet .. .. .	..	..	..	..	..	..
District ..	6,894	266	1,44,046	20½	16,448	45

Office.	1882-83.					
	Wet.		Dry.		Garden.	
	Total area sold.	Average price per acre.	Total area sold.	Average price per acre.	Total area sold.	Average price per acre.
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Aravakurichi	33	366	2,724	20	62	74
Avanashi	20	129	970	11	924	33
Bhavani	30	80	1,493	13	207	58
Dhārāpuram	194	457	2,807	9	229	30
Erode	118	410	1,645	26	7	200
Gopichettipālaiyam	75	241	232	15	63	54
Karūr	290	255	2,965	19	180	81
Kollegal	130	95	548	29	..	..
Kāngayam .. .. .	..	..	2,674	15	162	67
Mettupālaiyam	55	86	842	10	162	51
Palladam	69	147	3,777	17	1,114	49
Perundurai	0	56	3,315	26	..	..
Pollachi	69	161	12,911	15	77	48
Satyamangalam	248	251	536	17	329	52
Udamalpet	241	266	7,712	18	221	68
District ..	1,560	254	45,138	16½	3,824	49

the highest price but one was Rs. 79; the one exception was at Rs. 220, but was only 31 cents. The Satyamangalam average is Rs. 37½, but if the single case above Rs. 50 be taken out, viz., 12 acres at Rs. 220 (a very extraordinary entry) the average falls to Rs. 23; the highest priced dry lands in Erode are entered as black lands under classes 4 and 5, but the whole area of dry black lands in the taluk is only 392 out of 293,708 acres, or $\frac{1}{750}$, whereas the sale table includes 23 acres or $\frac{1}{12}$ of the lands sold, a quite undue proportion; moreover as all dry black lands are in one village (Arachalur) and are mostly unoccupied, it appears as if wet lands had been wrongly described as dry. As a guide to the general

The accuracy of this table up to 1877-78 is open to doubt, the prices given for dry lands in some years even in out-of-the-way taluks, such as Bhaváni and Satyamangalam, are so heavy as to lead to a suspicion that they have been wrongly described in the documents, and are really gardens or have wells, or houses, or topos in or on them; *e.g.*, prices (in the tables for individual years) up to Rs. 391 in Coimbatore, 329 in Bhaváni, 172 in Satyamangalam, though the next highest price in that taluk was only Rs. 54 and so on; the highest prices are usually far above the average either for the district or for other years in the same taluk. The return up to 1877-78 was prepared rather rapidly for the Famine Commission; and a closer investigation would probably alter the figures to some extent. It will be noticed how entirely they differ from the figures (also taken from registration records up to 1874, given by Mr. Clogstoun as quoted in the foot-note below, and extracted from the Settlement Report. The discrepancies are especially noticeable under the head of dry land. It is evident that until the registration records are very carefully and specially gone through, deductions from the figures at all events up to 1877 must be received with caution, especially in the matter of dry lands. The average for the district up to 1877-78 cannot be given, as the areas were not given in the return furnished up to that date, so that a true district average cannot be calculated.

The price entered for garden lands is probably lower than the true price for actual garden land, as the garden is usually or often only part of a field which is sold in a block both dry and garden together; the dry land, though valuable in such cases, is much less valuable than the area actually irrigated.

The next table gives statistics obtained from examining the puttah transfer petitions in the Revenue Department; these usually state the price of the land sold, and refer to all sorts that have any sale value. All cases have been struck out that were mixed, *i.e.*, that contained lands other than only wet, or only garden, or only dry; also all that were sales of shares only; hence the small area entered in the table:—

Description of land.	1850-51.			1855-56.			1860-61.			1865-66.		
	Sales.	Area in acres.	Average price.	Sales.	Area in acres.	Average price.	Sales.	Area in acres.	Average price.	Sales.	Area in acres.	Average price.
Wet ..	46	103	23	21	57	32	28	41	111	57	68	1221
Dry ..	15	113	9	25	213	8	52	314	7	316	789	14
Garden ..	4	12	59	16	21	31	11	23	39	5	6	80

sale value of dry lands, the settlement table must not be taken by itself. For wet lands it is more trustworthy as these are of small area and are all valuable, while the variation in value is, so far as regards channel lands, comparatively limited. It is not known why garden lands are omitted.

Description of land.				1870-71.			1873-74.			1876-76.		
				Sales.	Area in acres.	Average price.	Sales.	Area in acres.	Average price.	Sales.	Area in acres.	Average price.
Erodo.	Wet	29	36	296	..	..	..	..	..	24	36	364
	Dry	175	385	13	..	..	..	..	..	312	1,214	16
	Garden	4	8	130	..	..	..	..	..	7	11	90
Dharmapuram.	Wet .. ..	..	..	..	..	..	..	..	..	..	..	..
	Dry .. ..	..	..	..	..	..	..	..	..	..	..	..
	Garden .. ..	..	..	..	..	..	..	..	..	..	..	..
Channarayana.	Wet .. ..	..	..	..	29	90	119	10	42	200	..	..
	Dry .. ..	..	..	..	97	514	18	76	581	13	..	..
	Garden .. ..	..	..	..	1	3	98	1	8	200	..	..
Pollachi.	Wet	6	27	86	14	29	55	14	41	66	..	..
	Dry	75	817	20	44	231	32	84	820	18	..	..
	Garden	2	3	150	..	..	..	..	..	..	..	..
Udamalpet.	Wet	15	18	271	33	50	189	41	80	276	..	..
	Dry	78	824	23	80	614	24	261	1,827	32	..	..
	Garden .. ..	..	..	..	2	12	164	..	..	..	..	..
Description of land.				1878-79.			1880-81.			1882-83.		
				Sales.	Area in acres.	Average price.	Sales.	Area in acres.	Average price.	Sales.	Area in acres.	Average price.
Erodo.	Wet .. ..	..	..	..	25	33	235	25	30	260	..	..
	Dry .. ..	..	..	..	108	703	14	132	797	15	..	..
	Garden .. ..	..	..	..	11	28	77	6	16	99	..	..
Dharmapuram.	Wet .. ..	..	..	..	..	..	..	..	..	..	..	..
	Dry .. ..	..	..	..	..	..	..	..	..	..	..	..
	Garden .. ..	..	..	..	..	..	..	..	..	..	..	..
Channarayana.	Wet	4	21	109	8	12	165	1	2	136	..	..
	Dry	32	238	11	30	172	17	6	54	7	..	..
	Garden .. ..	..	..	..	..	..	..	..	..	..	..	..
Pollachi.	Wet	4	17	92	11	42	163	5	8	208	..	..
	Dry	77	617	20	99	634	33	86	763	33	..	..
	Garden .. ..	..	..	..	..	..	..	..	..	..	..	..
Udamalpet.	Wet	13	55	633	5	14	185	34	77	341	..	..
	Dry	79	555	24	22	228	29	124	1,105	30	..	..
	Garden	1	3	152	..	..	..	1	73	137	..	..

Garden rates were abolished in 1854 with regard to all new wells, and in 1864 for all wells, so that gardens are not easily distinguishable after that date. It is probable that this table gives a fairer average of all saleable dry lands than the former, since all dry lands that appeared alone have been taken into account; a few lands that yielded prices far higher than the average for the year have been omitted as they probably contained wells or trees. In most cases the lands have been compared with the accounts and the Karnams have also been consulted.

The figures differ materially from the registration figures, chiefly, it is believed, because all classes, even the poorest, that have sale values have been included.

The next table shows that much land, though saleable, bears a price much smaller than that shown by the registration returns; it gives the average maximum and minimum prices for considerable areas in Erode taluk:—

Description of land.	Fasil 1270.					
	Minimum.			Maximum.		
	No. of sales.	Extent.	Average price.	No. of sales.	Extent.	Average price.
Dry	23	ACRES. 137	RS. 3	15	ACRES. 79	RS. 17
Description of land.	Fasil 1280.					
	Minimum.			Maximum.		
	No. of sales.	Extent.	Average price.	No. of sales.	Extent.	Average price.
Dry	22	ACRES. 175	RS. 3	43	ACRES. 201	RS. 28
Description of land.	Fasil 1291.					
	Minimum.			Maximum.		
	No. of sales.	Extent.	Average price.	No. of sales.	Extent.	Average price.
Dry	22	ACRES. 100	RS. 3	41	ACRES. 182	RS. 30

In the very few cases found from 1825 to 1850, the prices given were inconsiderable, viz., from Rs. 4 to Rs. 37 for wet land, Rs. 3 to 4 for dry land, and Rs. 17 to 23 for gardens, per acre. There is no information for years prior to 1825. Erode taluk is fairly typical, save that, owing to the pressure of population on arable and the great value of its channel-fed wet lands, prices are generally higher than in other taluks; the wet lands of Karur and Dhárápuram, and the fine red and black dry lands of Pollachi, Udumalpet and Coimbatore, are exceptions.

The traffic in land is very large, the registration tables (*vide* "Registration") showing a recent annual average of 55 lakhs, but most of

this is certainly between ryots; a traffic, however, which exceeds one-twelfth of the capitalized value²⁰ of the district land is momentous, while it shows the value of much of the land and the ease with which it is transferred. These 55 lakhs, however, do not all represent sales, but include all engagements, especially mortgages, having reference to land. The actual sales for the three years ending 1882-83 averaged about 12½ lakhs per annum, or less than one-fourth of the transactions, and about one-fiftieth of the capital value. In 1882-83 the total of land transactions was 24,765, of which mortgages were 11,400 or 46·2 per cent., and sales 10,610 or 43 per cent. The ratio of all transactions to the kinds of land has not been ascertained, but in 1880-83 sales averaged as follows;—wet lands 1,567 acres or $\frac{1}{12}$ of the total occupied wet area; dry lands 35,726 acres, or about $\frac{1}{2}$ of the total occupied dry area excluding gardens, and gardens 3,462 acres, or about $\frac{1}{12}$ of the nominal garden area of 408,326 acres, and $\frac{1}{2}$ of the area (251,275 acres) actually irrigated. Of the prices realized, nearly $\frac{2}{3}$ are credited to the small area of wet land, $\frac{1}{3}$ to dry land, and a little above $\frac{1}{4}$ to gardens. Acre for acre, wet lands as sold were worth Rs. 255, or 13½ times as much as dry land and 5½ times as much as gardens, while gardens were worth Rs. 46, or 2½ times as much as dry land, which averaged Rs. 19 per acre. The low garden rate is due to the fact that much nominal garden in a given field is only dry land, a 6-acre field probably having only 3 to 4 acres of actual garden, the total area actually irrigated being only 251,275 acres out of a field area of 408,326; hence the actually irrigated area is probably worth about Rs. 60 per acre. The average value of the dry lands (Rs. 19) must not be taken as a gauge of the value of poor lands, such as VII 4, 5, and VIII 3, 4, 5; a vast area has little or no sale value, being so unproductive: an examination of the tables from 1878 to 1883 shows that sales are much larger where the generality of dry lands are most valuable; in Pollachi, where the soil is generally rich, and the south-west monsoon abundant, and in Udumalpet, with its high priced black cotton lands, the sales averaged in five years almost five-twelfths of the total district sales, though the occupied area of these two taluks, including palaiyapets, is about two-twelfths of the district occupied area. The number of professional money-lenders in these taluks possibly accounts for the large sales, and the value of the lands for the money-lenders. Since therefore the average price of Rs. 19 has been struck upon the sale of an unduly large proportion of the valuable lands of the district, a lower rate (Rs. 12) has been taken in roughly estimating the capital value of the *total* occupied dry lands. The sales of garden lands in the Palladam taluk, including Avanashi, were very heavy, totalling 8,563 acres out of 16,443 acres sold from 1878 to

²⁰ The wet land may be worth 375 lakhs, the gardens 190, and dry land 215; hence 55 lakhs would be above one-twelfth.

1883, or above one-half, whereas the garden area of the taluk is about two-elevenths of the district garden area, and the dry sales were only about one-eleventh of the total dry sales.

The prices realized at Government sales for arrears are no guide, partly for reasons given above as to the value of lands brought to such sale, partly because, if valuable, they are often collusive; civil court sale prices are also useless, partly because they are of limited publicity, but chiefly because the purchaser is frequently the decree-holder, who buys for a nominal sum.

CHAPTER XL

EDUCATION.

Early condition.—Education in 1822.—History to 1852.—Condition in 1853.—Subsequent Government action.—Private action.—Description of schools.—Maintenance.—Principles of grants-in-aid.—Salary grants.—Results grants.—Combined system.—Standards of instruction.—Inspection.—Divisions.—Inspecting schoolmasters.—Improvement of inspection.—Training.—Normal schools.—System and results.—Primary education.—Unaided schools.—Female education.—Inspector's remarks.—Training for schoolmistresses.—Special schools.—Effects of famine.—Tables.—Cumbhure college.—Statistics of 1881-82.

NOTHING is known of the Educational Department prior to the British assumption. A report of 1822 shows that endowments for colleges (so-called), to the annual value of Rs. 2,208, had been resumed by the Mussalman Government; these were probably devoted to the education of Brahmans. The same report states that "the schools and colleges appear to be supported entirely by the people who send their children to them for instruction. The annual payment for each scholar varies from Rs. 14 to 3 according to the circumstances of their parents. Besides these regular stipends, the masters occasionally receive presents from the parents of their pupils; they have also small fees on particular occasions. The earliest age at which boys attend school is 5 years; they continue there till they are 13 or 14. Those who study science, law, &c., enter the colleges at about 15, and continue to frequent them until they have obtained a competent knowledge of the sciences, or until they obtain employment. A statement is given of *māniems*, &c., granted in former times, but now resumed, to the value of Rs. 2,208." From the reports of other Collectors it seems that by "college" was meant a small school, probably in a temple, where the sciences were taught, and by no means a college as now understood. The number of pupils in 173 colleges was only 724, or a little over 4 each, and all of these were Brahmans. These little schools may still be seen in the *mandapams* within temples, some venerable Brahman reciting the sacred books to a little class of Brahman lads. The number of schools is probably correct judging by the returns in other districts; they were evidently the little village schools still kept up by the chief *ryots* of large villages, and were attended almost solely by Brahmans' and *ryots*' children: each school averaged about 10 pupils. Girls were only 82 in number, and were only of the dancing class. The following table gives complete information:—

Number of schools and colleges.	Under instruction.						Population.		
	Brahmans.	Valiyas.	Sudras.	Mussimans.	Others.	Total.	Male.	Females.	Total.
936	1,642	383	6,461	312	226	8,930	316,931	321,368	638,199
Percentage of "under instruction" to population.	Percentage of males to male population.		Percentage of males to male school-going population at one-eighth of the total.			Percentage of males in 1881 to male school-going population at one-eighth of the total.			
1.39	2.79		11.2 or 1 in 9			10.6 or 1 in 9½			

Assuming that the population of 1822 was given tolerably correctly (though this is doubtful), it will be found that the proportion under instruction was 1 in 71½ as compared with 1 in 71 in 1881. The figures for 1871 would show a decided retrogression from those of 1822. Though the numerical ratio for 1881 is little in advance of that for 1822, the absolute quantity of education is of course much greater, while the quality is considerably better so far as the scope of a mere literary education extends. But the history of education in Coimbatore is very unsatisfactory, except that private effort has done almost everything, at least up to 1871.

The considerable number of schools shown above could not have sprung up within the first twenty-two years of the British assumption; primary instruction for the masses, and a scientific training, as then understood, for Brahmans, were not wholly neglected prior to 1799: save, however, the endowed colleges, the schools appear to have been purely private and without Government interference or recognition. It must be remembered that the general instruction given in 1822 was of the poorest description and cultivated the memory at the expense of the reasoning powers; it was merely that of the non-inspected pial schools of the present day.

The subject was then taken up by Government and a Board of Instruction formed. The result of Government effort was the establishment of collectorate and tahsildari (taluk) schools about the year 1826; the masters for the former, of which there were to be two in each district, were selected by the Collector and sent to the Presidency for training; those for the latter were chosen from among the people of the town in which the school was to be placed, the selection being left to the chief men of the place. The stipend of collectorate school teachers was Rs. 15 and that of taluk schoolmasters Rs. 9. Voluntary fees and customary presents were alone to be accepted by the teacher, compul-

sory fees being abolished. The consequences of the mode of selection, the low pay, the absence of stimulus to the teachers, the want of all training, whether in the subjects taught or the method of teaching, and the entire absence of supervision, resulted in total failure; the general teaching was inferior to that in the ordinary village schools, while the collectorate schoolmaster was hardly superior to a pial teacher. The Coimbatore Collector appears to have thought somewhat better of his three taluk schools, but his figures and facts hardly bear him out, for in 1834 the schools in Coimbatore, Satyamangalam, and Karúr only held 99 boys (39, 19, and 42), and but 50 had passed out of the schools, the most proficient of the pupils being only able to read, write, and cast accounts in Tamil. About the single collectorate school there are no figures or facts; it seems to have been empty. The result was that in 1835 these schools were summarily abolished.

It is to be noted that Mr. Addis of the newly established London Mission branch had started several vernacular schools: from 6 in 1831 they had risen to 14 in 1850, with an attendance of 971 boys. The superior instruction given made them very popular, and the pupils were at once taken for village accountants and book-keepers in shops. From 1855 the establishment of Government schools in which English was taught caused the gradual abolition of the Mission schools.

Until 1855, after the receipt of the despatch of 1854, Government efforts in education were almost *nil*. In 1852 the attention of the Collector (Mr. E. B. Thomas) was drawn to the subject, and his inquiries resulted, in July 1852, in the establishment of a private Anglo-vernacular school at Coimbatore, which has gradually developed into an arts college of the second grade, educating up to the F.A. standard. As the founding of this school is an era in Coimbatore education, a view may be taken of the then system and position of education in the district as described by Mr. Thomas in his report of 1853 in answer to the queries of the Education Committee. The following table contains particulars:—

Number of schools.	Number of free schools.	Number of boys' schools charging fees.	Probable amount of fees.	Schools instituted by Missionaries or other bodies.	Schools instituted by natives.	Schools in which English is taught.	Schools solely vernacular.	Pupils.
541	None (?)	836	rs. 49,539	{ Mission 11 Others 1 }	229	1	840	10,333

"These are (with the exception of the English one at Coimbatore) common schools scattered over different parts of the district. Tamil and Canarese are taught, not of a sound nature. The schools are supported by the community. Most of the schoolmasters are paid in grain, with a small annual fee in cash on the occasion of the Dasara feast. These schools cannot properly be inserted in report No. 2. The schools are held in the house of

some of the influential inhabitants of the village, in a pagoda, common choultry, or some other public place. The boys are taught only to read and write, with a little arithmetic; but they generally leave the school before they attain even this slight knowledge."

It will be observed that 829 out of 841 were common pial schools) that the education given was almost *nil*, and that only one school, viz., Mr. Thomas' school at Coimbatore (now the college), taught English. The estimate of fees is a mere guess, but is probably near the mark. Population in 1853 was about 1,160,000; taking male youth of a school-going age only, the proportion of pupils was about 1 in 14, or 7 per cent.; to total population it was 1 in 112, a great retrogression from 1822.

*Government Educational Institutions.*¹—No zillah school was established at Coimbatore under the new system of 1855, Mr. Thomas' Anglo-vernacular school at Coimbatore in a measure supplying its place. In 1858 a normal school at Cheyúr, then a taluk head-quarters, with a taluk school as a practising branch, was established to educate village schoolmasters, and also those who would eventually become taluk schoolmasters. In 1859 a taluk school was opened at Polláchi, upon a subscription by the people of Rs. 1,050 for a school-house. In 1860 five new taluk schools were opened at Dhárápúram, Udumalpet, Ánaimalai, Satyamangalam and Erode. In 1861 the normal class at Cheyúr was abolished, the taluk school alone being left; in 1864 the taluk school at Ánaimalai was closed for want of support, and in 1876 that at Cheyúr was shut for a similar reason. The Education Act (III of 1865) was extended to fifty-four places in the district, but no action was taken except in Kángyam and Súlúr. In 1875 the Súlúr school was converted into a private results school, only that at Kángyam being left; since 1871 this school has been under Local Funds and is the only one of the kind in the district. But in 1879 a new normal school was opened at Coimbatore by the Local Fund Board for the sole purpose of training village schoolmasters, and is now flourishing; its aim and system will be described below. Another was started at Karúr in 1884, and a female normal school has recently been opened in Coimbatore. The taluk schools are now five, that at Satyamangalam having been closed: except that at Polláchi, all are now high schools, those at Erode and Karúr being under the Municipal Councils. The above is a statement of Government institutions to 1885.

Private Schools.—Higher Education, aided.—In 1852 Mr. Thomas, with the aid of others, started a school at first known as Thomas' school, but subsequently as the Anglo-vernacular school; this designation was changed in 1868 to that of high school, and this again to that of college in 1875-76. Its standard has been gradually raised from

¹In the word "Government" are included Local Funds and Municipal, and not merely Provincial, schools.

something between a zillah school and taluk school to that of high school, and subsequently to that of a second-grade college. For further particulars, *vide infra, sub voc.* "Coimbatore College."

Private origin; Secondary Education; higher class, aided.—Under the above head come the high school attached to the college, the branch high school, which is under the same committee and was formed from the surplus of the high school, the London Mission high school, the new Native high school in Coimbatore, and that at Erode. The first-named has been mentioned above, the second developed from the first in 1874, the London Mission school was started as an Anglo-vernacular school under the salary grant rules and developed into a high school. The Native high school at Coimbatore was started only in 1882 and is a flourishing institution; that at Erode in 1886.

Private origin; Secondary; middle, aided.—Under this head a large number of schools has been started and abolished; the number rose from 9 in 1862 to 32 in 1871, from which year they declined to 15 in 1876; in 1876, under the influences of the famine they fell to 1 (Karúr school), which was finally absorbed in 1881 into the Government school.

Private; Secondary; middle, unaided.—The only school under this head is the Roman Catholic school at Coimbatore.

Private; Primary; under inspection.—There have always been many schools of the lower class giving a more or less feeble education. In 1859 a beginning of inspection was made and the number under such inspection rose from 67 in 1861-62 to 657 in 1875, when by reason of the famine they fell to 362 in 1876 and 285 in 1878, rising again to 380 in 1879 and 651 in 1882.

Not under inspection.—The number of those not under inspection is not known.

Maintenance.—Government.—The charges of the Government taluk or middle schools above alluded to were paid by Government from the Provincial grant for education. Only the Sélúr and Kángyam schools were rate-schools under Act III of 1863 and were paid for by local house-cess. On the repeal of this Act by the Local Fund Act of 1871, these schools were handed over to the Local Fund Board. Municipal schools are of course paid for from the Municipal funds, and these now include the schools at Erode and Karúr. The normal schools for male pupils are also paid for from Local funds. Fees are charged in all except the normal school, and cover a considerable proportion of the charges.

Private.—These schools are variously maintained by Government grants, by subscriptions, by Mission Societies, and by fees. The Government contribution is by salary grant or by results grant, the latter being either direct from Provincial funds, or from Local or Municipal funds. Except in combined system schools aid is given only by salary grants to the schools of the middle and higher grades, a proportion

of the master's salary being paid from Provincial funds. The grants for the fourth standard, and for all standards for girls, are paid from Provincial funds, those for the boys under the first, second, and third standards (Lower Primary) being paid from Local and Municipal funds. But the results grants in primary schools attached to the Government higher classes of schools are paid from Provincial funds. Village schools are maintained by fees and by the contributions of the parents at various festivals, such as the Dasara; when aided, they draw results grants from Local or Municipal funds; under the combined system the masters get a small salary grant from Local or Municipal funds, the results grant, and a portion or the whole of the fees.

Principles on which grants are based.—To avoid the necessity of reference elsewhere, a brief abstract of the principles on which aid is granted to private schools is given: (1) by a graduated portion of salary; (2) by payment for the results of annual inspection and examination; (3) by a combination of (1) and (2).

Salary grants.—Salary grants are only given to schools of superior grade when trustworthy supervision is available; such are the college and high schools, with their appended middle and primary schools, the college, &c., being managed by a committee of European and native gentlemen, and the London Mission high school by the resident Missionary. No other schools are now drawing a salary grant. Under the new Grant-in-aid Code (April 1880) the grants vary according to the grade and sex of the teachers.

Results grants.—Aid is granted only for schools not working beyond the sixth or Matriculation class, and in case of necessity preference will be given to schools levying and accounting for fees. Aided schools must place themselves under inspection and keep regular paged registers of attendance, fees, &c. They are examined once a year in the standards as given hereafter, and only such pupils are eligible for examination as shall have attended the school for at least three hours per diem for at least ninety days in the previous six months, and who have been working at the standards for which they are examined. A pupil must pass in two heads out of three for the first and second standards, and in three—two of which must be reading, writing, or arithmetic—for the third and fourth. Frauds or irregularities in the registers of attendance and accounts, and in the presentation of pupils, lead to the withholding of the grant for the school. Managers who desire their schools to be examined must apply to the President of the Local Fund Board or Municipality within the 31st December; the President forwards the application to the Deputy Inspector, who reports in a tabular form to the Inspector, who returns it with his opinion to the President. No school can be examined which has not been established for at least three months before the date of application, nor unless it has at least 8 boys or 4 girls, nor unless the authorities consider that it has a probability of

permanence. The Local Fund Board or Municipality settles the schools to be examined, and the list should be published within 31st March. Extracts of the Inspector's list relating to female schools and standards above the third are forwarded by the President to the Director of Public Instruction, since these are paid from Provincial funds; on his decision a list is published in the District Gazette. Appeals from the decision of President or the Director lie to Government. After examination a memorandum in cheque form is given to the manager, who can cash it at the nearest treasury if payable from Local funds, or after counter-signature by the Inspector if payable from Provincial funds.

For a table of results grants see the Code of Standing Orders.

Combined system.—This is growing in favour in Coimbatore, where it was early introduced by Mr. Garthwaite. It is a combination of salary grants and results grants, the rules for the latter being the same as for results grants proper, the only addition being that the Local Fund Board give a small stipend to the master in aid of the fees and results. They are granted solely to normal students who have passed from the school, and, as explained by Mr. Garthwaite and laid down by the Local Fund Board (Proceedings of 30th April 1883), these schools are private schools, which the Board endeavour to make permanent, first by educating the schoolmaster, secondly by granting him a small stipend, the continuance of which depends on the master's energy and success, and also upon his conforming to the Board's rules. The locality is to a certain degree settled by the Local Fund Board, on whose approval of locality may depend the stipend of the master. The object of the system is to ensure to the diligent man by fees and results, aided by the small stipend, a sum equal to what would be a fair remuneration if paid solely as salary. His diligence and attention to his pupils are secured by the dependence thereon of his fees and results grants, while on the other hand he is protected against dependence on the fickle favours of the ryots by the Local Fund stipend, which is also a source of respect in that he becomes thereby a *quasi*-Government officer.

Grants are also payable for school buildings, furniture, maps, apparatus, &c.; very few claims have been made and grants given, but this is by no means due to a satisfactory position in these matters, for the district primary schools are located in the worst possible huts, and furniture and apparatus are almost entirely wanting. Good buildings have much to do with a decent education. The Erode Municipal primary school-house is an exception to the general rule, and its opening was at once followed by an extraordinary increase in pupils and results.

To show the standard of instruction provided for the district, a brief abstract of the subjects of education in each grade is given:—

Class of school.	Class.	Stand- dard.	Subjects.
Lower Primary.	Prepy. class A ..	First ..	Simple vernacular reading, Tamil First Book, Part I, large-hand vernacular writing, dictation from First Book, Part I, notation and numeration to 4 places, tables to 4 times, and easy simple addition; English figures to be used.
Do. ..	Prepy. class B ..	Second.	Vernacular reading, Book I, Part II, easy writing, dictation, poetry, grammar, notation, &c., to 7 places, the 4 simple rules, simple district geography.
Do. ..	First class ..	Third..	English First Book, easy construing and reading in other similar books; English writing, large hand, easy dictation from First Book and grammar, translation into and from English and vernacular. Vernacular reading, writing, dictation, poetry and grammar, small-hand writing, arithmetic (Colenso in vernacular) to reduction and compound rules in Indian measures, &c., easy mental arithmetic, geography of Presidency and district, easy history and agriculture.
Upper Primary.	Second do. ..	Fourth.	Second English Reader, English proportionately advanced, vernacular Third Reader and subjects, arithmetic (Colenso in vernacular) to vulgar fractions, mental arithmetic in bazaar transactions, geography of Asia and easy history in vernacular, easy agriculture, and Cunningham's Sanitary Primer.
Middle ..	Third do. ..	Fifth ..	English Third Reader, small-hand writing, dictation, Grammatical Primer, translation, vernacular Fourth Reader, ordinary writing, dictation, poetry, Anthology II, grammar, arithmetic (Tamil Colenso) to decimals, European geography, portions of history, and easy agriculture.
Do. ..	Lower Fourth ..	Sixth..	English Fourth Reader, writing, dictation (Fourth Reader or similar books) and common but difficult words, part of Manual of English Grammar, translations. Vernacular reading (Anthology II), vernacular letters, grammar, Barnard Smith's arithmetic to proportion, Euclid, Book I, to prop. 16, geography of Asia and part of India, parts of Indian and English history.
Do. ..	Upper Fourth ..	Seventh.	English Fifth Reader, other subjects as in Lower Fourth, but more difficult. Vernacular Fifth Reader, arithmetic to compound proportion and simple interest, algebra to end of fractions, Euclid, Book I, geography of Europe and India, map-drawing, parts of Hunter's Indian and Miss Thompson's English History, Cunningham's Sanitary Primer.

The above is an abstract of primary and middle education, the former being of chief interest especially in the vernacular, as it is the utmost school education that the masses of pupils can hope to obtain; it is in these schools that the sons of farmers must get the instruction that is to make them more fitted to judge and deal soundly in everyday affairs; to calculate the returns from their fields, the prices of their produce, and the dues to Government; to check the receipts given by the Monigar and the pattahs given by the Karnam; to peruse the bonds and documents relating to land or money which pass between man and man; to check the accounts of the shop-keepers; and to calculate, and thereby perchance to avoid, the entangling results of transactions with the money-lender; to write an intelligible letter to his friends or petition to the authorities; to get that power of reading which shall enliven his dull existence, and bestow on him the ideas and facts of modern civilization; above all, to induce the habit of reflection upon the modes, processes, surroundings, and tendencies of his daily life.

The classes of the high schools and college deal with the higher education, of which the scope may be understood by the following abstract of the eighth or F.A. class, viz., English prose and poetry prescribed for the F.A. Examination, Bain's English Grammar, parts of Angus' Hand-book, essay writing and translations of some difficulty, vernacular reading, essay writing, Tamil Nannal, Todhunter's Algebra, Euclid to proposition 21 of book XI, Todhunter's Trigonometry to chapter XVI, Freeman's European History and selections from Ancient History, Huxley's Elementary Physiology to chapter VII.

The above curriculum is for boys; that for girls differs only in that they learn needlework and singing and do not learn English. The instruction given in the normal school will be found in the description of that school.

Inspection.—The district belongs to the sixth division, the Inspector's head-quarters being Coonoor. Including the Nilgiris it is divided into

South.	{ Karár. Polláchi. Dhárápuram. Udamalpet.	North.	{ Kollegal. Sotyanmangalam. Nilgiris. Wynnad.	Central.	{ Palladam. Erode. Coimbatore. Bhavani.	three circles, viz., north, south, and central, as margin- ally noted, each of which is under a Deputy Inspector.
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There are also for the district nine Inspecting Schoolmasters, whose circles and pay are entered in the following table:—

Inspecting Schoolmasters.				Pay. Rs.
Karár range ..	..	..	..	35
Polláchi range ..	..	..	..	35
Dhárápuram range ..	..	..	..	25
Udamalpet range ..	..	..	..	30
Kollegal range ..	..	..	..	30

Inspecting Schoolmasters.			Pay.
			rs.
Satyamangalam range	..	..	25
Palladam range	..	..	30
Erode and Bhavani range	..	..	35
Coimbatore range	..	..	35

The history of this inspecting grade, which appears to have originated in this district, is as follows. Unsuccessful attempts had been made prior to 1859 to improve village schools by grants of books; in that year an equally unsuccessful attempt was made by changing the grant to one of money, but in Coimbatore the Inspector, Colonel Pears, tried a plan which the Director considered to promise fairly. Colonel Pears directed one Sivan Pillay (one of the above Inspecting Schoolmasters) "who is an untrained schoolmaster possessing considerable zeal and intelligence, to take up the inspection of the villages in four taluks." His business was "to conciliate the village masters, to point out the advantages of the European method of teaching, to encourage the younger among them to avail themselves of the Government normal school, to carry about with him a stock of our school-books for sale, and to show them how to use them." In a few months he had 42 schools under inspection; the masters of 25 of these declined advice or help, but the other 17 he "completely reorganized." "Three or four out of these 17 were instituted by Sivan Pillay at the request of the villagers; among these is a female school at Coimbatore which numbers 23 pupils." Colonel Pears was very well satisfied on inspecting two of these schools. The plan was adopted and systematized; grants not exceeding Rs. 10 quarterly were paid to such masters as placed themselves under inspection and followed the advice given, the grant depending "on the number of pupils who could read intelligently, write fairly from dictation, and work out sums in the first four rules of arithmetic." Up to that time the instruction had been simply that of the ordinary pāl school, where knowledge hardly worth having was taught by the faultiest methods, the net results to the pupils being little beyond a slight development of memory, which, however, has had no appreciable effect upon that faculty amongst Coimbatore ryots. Under the new system order was established and some useful knowledge imparted in a more scientific way, while the grants induced schoolmasters gradually to come under inspection, so that in 1868-69 359 schools were under inspection, of which 122 received grants. The above system has practically been continued till this day, these Inspecting Schoolmasters being now paid from Local Funds. It is obvious that educational results will vary largely with the ability, diligence, and tact of the Inspecting Schoolmasters, or whoever may be deputed to work up the primary schools.

The propriety of abolishing this grade and substituting trained Deputy or Sub-Inspectors of a higher grade has been several times mooted of late: the Local Fund Board have not as yet seen their way

to the adoption of a new scheme, but the overwhelming importance of a good primary instruction is daily demanding a consideration of ways and means to meet it. All primary schools except those attached to high and middle schools (which are examined by the Inspector or Deputy Inspector) are inspected by these Inspecting Schoolmasters, who ought to visit each school once a quarter. The Deputy Inspector is also supposed to visit each school once a year between his examinations, but this is impossible with the present small staff.

The classes in middle schools are periodically inspected by the Deputy Inspector of the circle.

Training.—The masters of the higher class of schools are usually graduates or undergraduates, and are chosen by the Inspector.

For primary school teachers there was, until 1879, no training except for three years at the Cheyūr normal school (1858 to 1860). This school was intended for village teachers; all that it did was to train a few teachers for the then taluk schools, and it was a failure owing probably to its out-of-the-way position, in spite of scholarships for students numbering 15 at Rs. 3 and 7 at Rs. 5. All others were hereditary or adventurer pial masters of little learning and less method, until the establishment of the Local Fund normal school at Coimbatore in 1879. This was founded solely for the instruction and training of men as village schoolmasters, if possible, those already engaged in teaching or their relations. The Municipalities are also allowed to send masters from their own primary schools for training, and this privilege is being availed of.

A varying number of stipends is provided for the students, who are required to pass an entrance examination equivalent as a rule to the Lower Primary Examination. The stipends are fixed at Rs. 5, and are ordinarily tenable for twelve months, but it is usual for several to be continued for three more months in order that the stipendiaries may teach the practising branch till the new students are ready. A student is required to bind himself to remain under training, and to take up a school for five years, failing which he will refund the amount of his scholarship. The course is as follows, both instruction and training in method forming the curriculum. Instruction embraces the vernacular subjects of the Special Upper Primary Examination (rather above the former "teachers' fifth grade"). Their reading includes up to the Third Reader, and writing, mental arithmetic, and map-drawing, both on the flat and on earthenware globes, are necessary subjects.

The various registers and returns are also taught. The training is usually conducted by the head master, who both inculcates general principles of management and method and gives detailed examples; he supervises the teaching of the practising classes by the normal students, who teach only lessons already prepared, of which they have written notes beforehand. The head master daily reviews and criticises the teaching work both in the students' supervision book and in a class of students, the students themselves being called on to criticise and to

explain what errors should have been avoided. The note-book and black-board are extensively used as training means, the use of the black-board being an important item of instruction since it is indispensable for school purposes. Model lessons are also given by the head master once a week, this mode of instruction being of the greatest use in interesting scholars and developing their powers of inference and attention.

The practising classes are arranged on pials radiating from a hall, so that, while separate, they are capable of being viewed from the common centre by the head master; each class is provided with a black-board, or the cheap substitute of a blackened wall.

It is obvious that teachers so trained are far removed from the untaught pial master, who knows but little himself and possesses only the clumsy traditional ways of imparting what he knows, and that scholars instructed by trained men have their minds interested and developed, and an amount of useful knowledge imparted which ten years of the previous teaching could not have effected or given. These teachers are now being sent out in moderate numbers, but since, at present rates, it would be a generation before the district is supplied, another school was started at Karūr in 1884, besides a female normal school at Coimbatore. Decent school-houses, costing each one or two hundred rupees, when fitted with simple apparatus, furniture, books, and maps, are also required for trained masters.

The following table shows the work done by the normal school since 1879:—

Scholarships.				Teachers taught and passed.								Schools taught by passed men.			
1879-80.	1880-81.	1881-82.	1882-83.	1879-80.		1880-81.		1881-82.		1882-83.		1879-80.	1880-81.	1881-82.	1882-83.
				Taught.	Passed.	Taught.	Passed.	Taught.	Passed.	Taught.	Passed.				
30	30	30	24	30	20	21	20	28	13	23	18	1	15	35	40

More schools would have been started in 1882-83 but that a change of system was contemplated in 1882, which however was not carried out.

Fees.—In Government and salary grant schools, except girls' schools, the levy of fees at a fixed scale is obligatory, and in all others except orphanages it is universal.

Primary Education.—This most important topic has been sketched up to 1859, in which year the first systematic attempt to inspect and improve these schools was made. There were at that time several hundred indigenous schools scattered over the taluka. The normal school was a failure, nor was the grant of Rs. 150 per month for the salary of certificated teachers for schools near Cheyūr any more efficacious.

cious. Upon the adoption of Colonel Pears' scheme for inspection, by which the indigenous schools were to be systematized and improved to a degree which should enable them to get results grants, the number of schools under inspection steadily increased, being 185 in 1864, thereafter rising to 657 schools with an average attendance of 7,570 pupils in 1875-76, after which year there was a great fall owing to the famine.

An important resolution was, however, adopted by the Local Fund Board in April 1883, when they determined that "educational expenditure should in future be directed to the training of efficient teachers and the establishment of efficient schools, instead of the payment of results grants to *unimprovable* schools; the conditions of admission to results grants will in future be more stringent, and based strictly upon the lines laid down in paragraphs 3 and 4 of the circular of the Director of Public Instruction, No. 1212, of 27th February 1883." It was found that, during the last twelve years, over a lakh of rupees had been spent in aiding what are largely mere pial schools; it had been attempted to get good schools before providing good teachers, with the natural result that instruction (for it cannot be called education) was of the poorest character, and that with the greatest possible expenditure of money the least possible benefit was worked to the ryot. Under the advice of Mr. Garthwaite, who tabulated the results of twelve years' working, the Board resolved to work rather in the direction of training teachers who will start combined system schools, which it is hoped will prove of permanence and usefulness, and with this view they determined to start the new normal school at Karār (Southern Division).

The following table shows primary schools in 1881-82:—

Year.	Average.				Total pupils passed			
	Number of schools		Number of pupils		Standard I.	Standard II.	Standard III.	Standard IV.
	Under inspection.	Sent pupils for examination.	Reading.	Examined.				
1881-82 ..	470	361	13,988	4,877	1,066	1,219	445	122

"School" here means an institution willing to accept a grant. In 1881 the Inspector wrote as follows of other primary schools:—

"It would be inconceivable that there should not be a large number of indigenous schools disconnected with Government. For many of the teachers are highly respected and not wanting in self-esteem, and would decline to be superseded periodically in their own schools even if a grant were the result. It will thus be seen that while statistics are not likely to underrate the influence of this department, they are very likely to underrate the work done by the large class of hereditary teachers.

"A considerable amount of the instruction given in some old schools is of a religious character, boys being taught to read and recite holy verses.

Other verses as well as dances are taught in some schools, while many teachers prepare their pupils for admission into higher schools. The modes of teaching are those described by Dr. Bell, including monitors, sand-writing, and simultaneous reading, reciting and answering.

"These men are supposed to be sought out and induced to prepare themselves for admission into elementary normal schools on stipendiary scholarships."

In 1881 there were about 600 indigenous non-inspected schools receiving no grant from Local or Municipal funds. About 11,000 pupils were reading in these schools. The village schoolmaster (see remarks on "Goundans") is an important, or at least useful, person in the village economy.

Female Education.—There is little to be said on this subject, which has never been taken up zealously in this district. There are small Mission schools and a non-Mission school for caste girls in Coimbatore town, and in several of the rural schools caste girls attend; in the Municipalities some attention is now being turned to the matter, and it is proposed to start schools on the capitation grant system, which has worked well elsewhere. The district is decidedly backward in this respect. The following is an extract from the Inspector's report, No. 2452, dated 12th September 1881:—

"The district of Coimbatore is peculiarly destitute of girls' schools. Thanks to the London Mission Society, facilities are offered for a fair education for girls from aghaharam or from paracherri in Coimbatore if they like to take advantage of them. At Mettupalaiyam and Kaddur the same² society offers instruction to those who seek it. If the demand for education existed, there would be the supply, for there is a great deal of teaching ability running to waste in Coimbatore. There has been an attempt to train female students along with the schoolmasters in the Local Fund normal school. It was impossible that success should be conspicuous, as neither the masters, students, nor parents of pupils in the practicing school regarded the measure with favor. I suggested that the female students should practise in a girls' school, but the Board would have no variation in the mode of instruction if the students were hereafter to lay claim to salary grant under the combined system; and to establish such claim is, I presume, the chief object of the attendance of these females. While it will be conceded that much credit is due to the London Mission Society and to the native convent, and while other efforts, as detailed in my tabular report on the recent inspection of the Municipality of Coimbatore, have obtained recognition, still a really good girls' school is wanting in Coimbatore. Education in Coimbatore hides itself among Municipal carts or settles in unpretending localities open to the noise and gaze of loungers. Where it does not, as at the college, the pupils exceed the reasonable powers of the teachers. I make no reference here to Mr. Stanes', All Souls', or the Nazareth (branch from Ootacamund) convent schools, all of which are located in commodious, not to say picturesque, buildings, but are not intended for natives. A good building would, I think, attract girls, but without it I have little hopes of

² It is the Wesleyan Mission at Kaddur.—N.

success in a large town where there must be a variety of social distinctions rendering more complex the recognized caste rules."²

The following table gives the number of girls who have passed the schoolmistresses' test up to 1880 :—

Year.	First grade.		Second grade.		Third grade.	
	Examined.	Passed.	Examined.	Passed.	Examined.	Passed.
1869-74 ..	19	5	4	3	10	1
1876-80 ..	1	..	2	2	27	10

The results are unsatisfactory considering the field for trained mistresses, the probable result of a large body of such mistresses at work, and the materials which should be available.

Special Schools.—The only special schools are the orphanages at Coimbatore (London Mission), Karúr (Wesleyan Mission), and Coimbatore and Chinnapálaiyam near Bhaváni (Roman Catholic Mission); see "Missions." There are unfortunately no technical or industrial schools, though at the Karúr orphanage carpentry, smithwork, weaving, and rope-making are taught, and practical agriculture both at Karúr and at the Roman Catholic orphanages.

Effect of Famine.—The results of the famine of 1876-78 on education, especially primary, are shown below. The low figures of 1879-80 are, however, partly due to a raised standard of examination and a lowering of results' grants, the effect of which, combined with the poverty and disheartened state of the people, and the mortality of the famine, checked improvement in primary education. Statistics are not available for the large number of unaided primary schools; these probably nearly disappeared during the famine, but were soon re-opened, as there were several hundreds in 1881.

Year.	Primary.		Middle.				Higher.	
	Number of schools under inspection.	Scholars' average daily attendance.	Government.		Private.		Schools.	Pupils.
			Schools.	Pupils.	Schools.	Pupils.		
1865-66 ..	315	4,543	5	354	6	345	..	..
1866-67 ..	347	5,735	6	323	4	525	..	..
1867-68 ..	364	5,481	6	355	18	277	1	287
1873-74 ..	635	8,351	0	309	16	672	1	368
1874-75 ..	624	8,031	5	267	21	726	1	327
1875-76 ..	657	7,570	5	344	16	826	2	370
1876-77 ..	563	4,691	6	350	2	436	2	314
1877-78 ..	319	3,459	5	344	1	61	2	284
1878-79 ..	284	4,422	6	292	3	439	2	406
1879-80 ..	373	6,074	5	283	4	423	2	391
1880-81 ..	550	2,447	5	170	18	336	2	148
1881-82 ..	670	11,292	6	254	31	439	3	151

² Since the above was written female education has somewhat progressed; the Caste Girls' school at Coimbatore has now 160 girls on its books, and is ably worked; a female

The great fall was in primary and private middle schools, the schoolmasters being themselves poor and the parents of these pupils almost equally so; only those primary schools were kept up where the ryots were rich enough to maintain the masters. The decrease in the higher schools was in Coimbatore alone, the private school at Karūr maintaining its numbers. The figures however for the higher education are not quite accurate, as they include the scholars of the middle schools attached to the two high schools, the figures of each branch not having been separated until 1875-76.

As stated above, the higher and primary education of the district is almost entirely in private hands, Government support being confined to inspection and pecuniary aid; the bulk of middle class education is also in private institutions.* The following table abstracts the annual average of schools and pupils under each head in quinquennial periods from 1865 to 1880:—

Period.	Government.							
	High.		Middle.		Primary.		Normal.	
	Schools.	Pupils.	Schools.	Pupils.	Schools.	Pupils.	Schools.	Pupils.
1865-69 ..	..	..	6	359	..	..	..	..
1870-74 ..	..	..	6	300	..	..	..	..
1875-79 ..	..	..	6	315	..	..	..	..
1881-82 ..	1	8	5	254	6	384	1	27

Period.	Aided.									
	College.		High.		Middle.		Primary.		Girls' schools.	
	Schools.	Pupils.	Schools.	Pupils.	Schools.	Pupils.	Schools.	Pupils.	Schools.	Pupils.
1865-69 ..	..	..	..	..	15	496	245	3,482	..	..
1870-74 ..	..	..	1	330	23	765	524	7,709	..	..
1875-79 ..	1	17	2	331	4	232	419	5,564	10	252
1881-82 ..	1	39	2	142	11	340	343	8,019	13	354

normal school has also been started which numbers among its students several who are wives or relatives of pial schoolmasters. Several schools are to be found in the district, and an indigenous one at Kallagol is taught by the sister of a village schoolmaster.

* For remarks on the apparent relation of private effort, and a high standard of urban education, see the section on "Population," *sub* sec. "Education."

Period.	Unaided.							
	Middle.		Primary.		Girls' Schools.		Indigenous Schools.	
	Schools.	Pupils.	Schools.	Pupils.	Schools.	Pupils.	Schools.	Pupils.
1865-69 ..	..	..	..	..	..	..	..	..
1870-74 ..	..	..	..	..	..	..	..	..
1875-79 ..	..	..	..	..	..	..	..	..
1881-82 ..	18	85	308	5,157	6	84	627	11,158

A school is called middle though it may be practically a primary school with but one or two boys reading middle school subjects. The unaided schools are those that either failed to get grants or did not send up pupils for examination, though under inspection. The indigenous or pial schools are those which have not come under inspection or improvement; the number is only approximate.

The degree in which the schools were self-supporting, *i.e.*, the ratio of fees to total cost, is shown in the next table:—

Quinquennium.	Government schools.				Aided schools.				Unaided.			
	Middle.	Local Fund.	Municipal.	Normal.	College.	High.	Middle.	Primary.	Girls'.	Middle.	Primary.	Girls'.
1867-68 to 1871-72	..	34	..	..	..	44	33	38	..	..	..	..
1872-73 to 1876-77	..	58	18	..	..	12	54	47	51	07	..	..
1877-78 to 1881-82	..	44	09	25	..	19	78	96	51	11	56	76

Coimbatore College.—A brief sketch of this institution may be acceptable. In 1852 the then Collector, Mr. E. B. Thomas, with the aid of various European and native gentlemen, established an English school which at first bore his name, but was afterwards known as the Anglo-vernacular school. It has been from the beginning managed by a committee of residents. Its standard at first was between that of a taluk and a zillah school, and in 1860-61 it proposed to educate up to the Matriculation Examination. In 1864-65 it was called a middle school, and in 1867-68 it rose from a middle to a high school, and for the first time passed lads at the Matriculation Examination. Next year it developed into a college of the second grade and passed 2 in the F.A. and 10 in the Matriculation Examinations. The college department was, however, closed in 1871, from which time it was a high school of moderate success in the Matriculation Examination until 1875-76, when F.A. classes were again established, the school thus becoming again a college of the second grade, in which it still continues.

In 1874 its numbers were so large that the junior classes were removed to form a branch school which is equally popular with the original school; the figures given embrace both schools. It opened in 1852 with a moderate attendance of 79 boys, from which number it has, with trifling fluctuations, steadily advanced to an average attendance in 1882-83 of 550, and a closing attendance on 31st March 1883 of 637, of whom 54 were in the F.A. and 63 in the Matriculation classes. The total expenditure for the years 1852 and 1882-83 was Rs. 1,521 and 14,645 respectively, the fees approximating to '34 and '64 of the total cost.

The following table gives some particulars as regards the masters and pupils on 31st March 1884 :—

Consecutive number.	Class.	Number of classes under each master.	Qualification of master.	Pay.	Proportion paid by Government.	Number of pupils in each class.
				rs.		
1	VIII, VII, VI	3	M.A. ..	400	☆	26 (VIII)
2	VIII, VII	2	B.A. ..	150	☆	36 (VII)
3	VI-A	1	Matric. ..	80	☆	48
4	VI-B	1	B.A. ..	80	☆	41
5	V	1	F.A. ..	50	☆	44
6	IV-A (Higher)	1	F.A. ..	50	☆	42
7	IV-B (Higher)	1	Matric. ..	40	☆	40
8	IV-A (Lower)	1	F.A. ..	35	☆	36
9	IV-B (Lower)	1	Unpassed ..	30	☆	33
10	III-A	1	F.A. ..	30	☆	30
11	III-B	1	Matric. ..	25	☆	30
12	VIII, VII, VI, V ..	4 Science ..	B.A. ..	60	☆	..
13	VIII, VII, VI, V, IV ..	5 Sanskrit ..	Matric. ..	25	☆	..
14	VIII, VII, VI, V ..	4 Tamil ..	Unpassed ..	20	..	..
15	All	Gymnastics ..	..	15	..	..
16	IV, III, II, I ..	4 Writing ..	Unpassed ..	20	..	..
17	III	1	Matric. ..	40	☆	35
18	II-A	1	Do. ..	20	☆	33
19	II-B	1	Do. ..	20	☆	32
20	I-A (Higher)	1	5th grade ..	15	☆	36
21	I-B (Higher)	1	Matric. ..	15	☆	29
22	I-A (Lower)	1	Do. ..	10	..	21
23	I-B (Lower)	1	Do. ..	10	..	30

Special Statistics.—Other statistics will be found in the Appendix; for the results of education amongst the people see *supra*, *sub voc.* "Population."

The following remarks and tables are taken from the report on the sixth division for 1881-82, and give a tolerably complete view of the present state of education in the district so far as it comes under the Educational Department. They do not, however, include the indigenous and unaided schools, which are still numerous. Hence various differences in the figures in these and former tables. There has been considerable progress since the date of that report.

Table 1 classifies all the schools of the district according to the standards of instruction :—

District.		Institutions for boys.											
		Arts colleges.		High schools.		Middle schools.				Primary schools.			
						English.		Vernacular.		English.		Vernacular.	
		Institutions.	Pupils.	Institutions.	Pupils.	Institutions.	Pupils.	Institutions.	Pupils.	Institutions.	Pupils.	Institutions.	Pupils.
Coimbatore.	1880-81.	1	38	2	148	20	548	3	8	41	2,000	479	9,296
	1881-82.	1	38	2	151	23	609	6	13	74	3,363	553	10,197

Districts.		Institutions for girls.								Normal schools.		Total.	
		High schools.		Middle schools.		Primary schools.							
						English.		Vernacular.					
		Institutions.	Pupils.	Institutions.	Pupils.	Institutions.	Pupils.	Institutions.	Pupils.	Institutions.	Pupils.	Institutions.	Pupils.
Coimbatore	1880-81.	..	..	..	..	1	46	9	363	1	33	557	12,48
	1881-82.	..	..	2	14	2	85	11	343	1	27	711	14,89

Table 2 explains itself; the ratios differ from those in the table entered *sub voc.* "Population," since the latter exhibits the ratio to population of the pupils of all schools :—

District.	Population.	Scholars connected with the department.		Proportion of population per pupil.	
		1880-81.	1881-82.	1880-81.	1881-82.
Coimbatore ..	1,657,696	12,485	14,897	133	111

In table 3 the educational condition of the population, divided according to religions, is compared with that of the preceding year. The school-age population, taken roughly at 15 per cent. on the census figures of 1881, is incorrect if from 6 to 15 be taken as the school-age, and the "proportion of pupils" is therefore incorrect; the error, however, being the same for all the classes, the ratios between the pupils of one class and those of the others are unaffected. The most noteworthy ratios

are those of pupils, both male and female, among Native Christians, and of male pupils among Muhammadans :—

		Coimbatore.			
		1880-81.		1881-82.	
		Boys.	Girls.	Boys.	Girls.
Europeans and Eurasians.	School-age population ..	49	38	45	38
	Pupils under instruction ..	101	111	111	108
	Proportion of pupils ..	216.1	288.4	226.5	227.9
Native Christians.	School-age population ..	738	781	736	781
	Pupils under instruction ..	426	200	398	230
	Proportion of pupils ..	57.9	25.3	54.2	29.6
Hindus ..	School-age population ..	117,509	123,649	117,302	123,640
	Pupils under instruction ..	10,294	462	12,561	808
	Proportion of pupils ..	8.8	0.4	10.7	0.4
Muham- madians.	School-age population ..	2,732	2,946	2,782	2,946
	Pupils under instruction ..	761	..	837	2
	Proportion of pupils ..	27.1	..	30.6	0.1
Others ..	School-age population ..	209	210	200	216
	Pupils under instruction ..	67	13	129	4
	Proportion of pupils ..	32.1	6	61.7	1.9

The sex of the pupils is shown in table 4 :—

District.		Europeans and Eurasians.		Native Christians.		Hindus.	
		Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Coimbatore ..	1880-81 ..	101	111	426	200	10,294	462
	1881-82 ..	111	108	398	230	12,561	808
District.		Muhammadans.		Others.		Total.	
		Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Coimbatore ..	1880-81 ..	761	..	67	13	11,030	846
	1881-82 ..	837	2	129	4	14,030	861

The number of pupils studying the different languages was as follows :—

District.		English.		Vernacular.		Latin.		Arabic.		Persian.		Sanskrit.	
		Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Coimbatore.	1880-81 ..	2,214	62	11,638	778	7	..	..	..	..	..	3	..
	1881-82 ..	2,312	107	12,006	782	8	..	..	..	..	..	32	..

It is to be noted that the schools where Sanskrit and Arabic are taught, viz., the indigenous temple and mosque schools, are not taken into account in this table.

University Education.—Coimbatore college (second grade) passed 8 students at the F.A. Examination of 1881-82, as against none in 1881 and 11 in 1879-80.

Secondary Education: High Schools.—Three high schools were at work during 1881-82; this includes the newly added high school at Udamalpet, but not "the private school opened in the town of Coimbatore by certain graduates towards the close of the year;" the Udamalpet school "shows steady progress, and the people of the place take much interest in it."

In the following table the results of the Matriculation and Fifth Comparative Examinations are compared with those of the previous year:—

Schools.	Matriculation.				Fifth Comparative Examination.			
	Passed.		Percentage of passed to examined.		Passed.		Percentage of passed to examined.	
	1880-81.	1881-82.	1880-81.	1881-82.	1880-81.	1881-82.	1880-81.	1881-82.
<i>Private schools.</i>								
London Mission, Coimbatore.	..	2	..	40.0	..	3	..	27.5
Coimbatore College	41	29	32	16.0	..	26	..	49.1
<i>Government school.</i>								
Udawalpet .. .. .	..	..	..	..	..	7	..	63.8

Middle Schools for boys.—In 1881-82 there were 21 middle schools in the district.

In the following table the strength of the schools and the results of the examinations are shown in comparison with the figures of the previous year under the heads Government, aided and unaided schools:—

		Number on the rolls.		Number passed Middle School.		Number passed Lower Fourth Comparative.		Number passed Third Comparative.	
		1880-81.	1881-82.	1880-81.	1881-82.	1880-81.	1881-82.	1880-81.	1881-82.
Coimbatore ..	Government.	170	254	18	15	18	46	..	..
	Aided ..	312	359	49	64	..	61	..	..
	Unaided ..	..	..	..	..	..	..	..	..
	Total ..	482	607	59	77	18	100	..	..

Some of the important changes of the year were as follow :—

The middle department of the Udamalpet school was constituted a high school with a fifth class ;

The Dhārāpuram school bade fair to follow in the wake of Udamalpet³ ;

The towns of Erode and Karūr were placed in class B of mofussil towns in regard to fees ;

The Pollachi middle school was badly attended, and it was resolved to make it over to the Coimbatore Local Fund Board ;

At Satymangalam, where there had been formerly a Government middle school, afterwards abolished for want of success, a middle school was started by the London Mission and placed under an under-graduate who has passed through the Agricultural College ; this school is reported to be doing well ;

In Coimbatore at the beginning of 1882 a new private school, complete up to the Matriculation standard, was opened by a Kumbakonam graduate.

The next table shows the results of the Middle School (Upper Fourth) and Lower Fourth Examinations for each school :—

Schools.	1881.						1880.				
	Character of school.	Number registered.	Number examined.	Passed.			Percentage of passed to registered.	Registered and examined.	Passed.	Percentage of passed to registered.	
				First class.	Second class.	Total.					
<i>Class IV, Upper.</i>											
Udumalpet middle school ..	Government.	12	12	1	7	8	66·6	11	10	90·9	
Erode middle school ..	Do. ..	6	9	1	4	5	55·5	..	..	..
Coimbatore college ..	Aided ..	78	76	10	46	56	71·7	60	30	78·0	
London Mission high school ..	Do. ..	25	25	1	7	8	32·0	18	10	66·6	
<i>Class IV, Lower.</i>											
Erode middle school ..	Government.	17	15	5	9	14	82·3	9	6	66·6	
Udumalpet middle school ..	Do. ..	21	21	6	13	19	90·4	10	8	80	
Karur middle school.	Do. ..	14	13	2	6	8	57·1	..	..	..
Dhārapuram middle school ..	Do. ..	11	11	2	6	8	72·7	10	4	40	
Pollachi middle school.	Do. ..	..	..	..	..	..	..	..	..	..
Coimbatore college ..	Aided ..	74	72	9	33	42	56·7	..	..	..
London Mission high school ..	Do. ..	25	22	1	8	9	35·0	..	..	..

³ This school has since become a high school.

The following table shows the strength of each school at the close of the last three official years :—

Names of schools.	On the rolls, 31st March 1880.	On the rolls, 31st March 1881.	On the rolls, 31st March 1882.
<i>Government schools.</i>			
Udamalpet	40	54	76
Dhārāpuram	22	27	38
Karūr	4	34	47
Pollachi	10	13	20
Erode	30	42	75
<i>Aided schools.</i>			
Coimbatore college	221	225	231
London Mission school	58	75	63
Day school .. .. .	..	6	6
Halfway school .. .. .	..	8	4
Twelve results schools .. .. .	..	..	24

Primary Schools.—These schools fall under three heads :—

- (1) Primary schools under superior management ;
- (2) Pure results grants schools ;
- (3) Combined system schools.

The particulars for (1) are noted below :—

Upper primary.				Lower primary.			
Number on the rolls.		Number passed.		Number on the rolls.		Number passed.	
1880-81.	1881-82.	1880-81.	1881-82.	1880-81.	1881-82.	1880-81.	1881-82.
320	372	139	211	372	306	204	167

The numerical decrease in these schools is owing to the abolition of one class in the Udamalpet school, and one in Dhārāpuram, and the migration in the town of Coimbatore of large numbers from the two old schools to the one started in January ; hence, though there is a decrease in the numbers attending this particular class of schools, there is not a decrease in the pupils under instruction.

The details for (2) are given in the next table, which shows a very general advance in every standard beyond the results of the previous year :—

	Number of pupils presented.									
	Standards.									
	I.		II.		III.		IV.		V.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
South Coimbatore ..	1,394	54	760	49	371	20	169	2	17	..
North do. ..	1,073	32	628	67	239	25	68	11	15	1

	Number of pupils presented—(Contd.).				Number of pupils passed.							
	Standards—(Contd.).				Standards.							
	VI.		VII.		I.		II.		III.		IV.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
South Coimbatore	13	..	1,039	88	603	32	249	17	78	2
North do.	1	..	..	945	78	568	48	178	22	44	8

	Number of pupils passed—(Contd.).						Grants earned from								
	Standards—(Contd.).														
	V.		VI.		VII.		Provincial Funds.			Municipal Funds.			Local Funds.		
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.									
South Coimbatore ..	11	..	..	..	2	..	Rs. 14	0	..	Rs. 4	0	..	Rs. 0	0	..
North do. ..	6	1	..	1	..	..	1,305	1	0	1,626	4	0	3,741	8	0

The following table gives particulars for (3) the combined system schools, and shows a large increase in schools, scholars and grants:—

Circles.	Schools.		Pupils.		Grants and stipends.	
	1880-81.	1881-82.	1880-81.	1881-82.	1880-81.	1881-82.
South Coimbatore..	11	18	412 G. 10	720 G. 19	Rs. 2 8	Rs. 6 3
North do. ..	7	21	371 G. 49	714 G. 49	442 3 10	2,310 12 2

Middle Schools for girls.—"The middle education of girls, so far as it is recognised by the department, is still in the hands of Roman Catholic religious orders, but it is hoped that Mr. Stanes' school at Coimbatore will enter the field in the current year, and present pupils for the Middle School Examination." Only two schools, viz., the convent school and day school, educated up to the middle school standard, and in these two schools only eight girls were reading for this examination; none of these passed. There was not a single Hindu or Muhammadan girl in any middle school class; all were either Europeans or Eurasians.

The following table gives information regarding the girls' schools of the district; it is to be remembered that unaided schools are excluded:—

		Number of schools.	1881-82.						
			Nations.					In upper division.	In lower division.
			Europeans and Eurasians.	Native Christians.	Hindus.	Muhammadans.	Others.		
North Coimbatore.	Girls ..	7	63	89	75	..	..	227	16
	Boys ..	22	4	14	..	..	..	40	23
South do.	Girls ..	6	100	67	..	..	..	157	12
	Boys ..	..	4	..	..	..	..	4	2
Total ..	Girls ..	13	63	189	132	..	..	384	27
	Boys ..	..	22	8	14	..	..	44	25

		Number of schools.	1881-82—(Continued).				1880-81.			
			Languages studying.		Number passed.		Number of schools.	Number of pupils.	Number passed in	
			English.	Vernacular.	Upper Primary School Examination.	Lower Primary School Examination.			Upper Primary School Examination.	Lower Primary School Examination.
North Coimbatore.	Girls ..	7	63	178	6	14	6	256	..	14
	Boys ..	22	..	33	..	..	..	23	..	..
South do.	Girls ..	6	..	167	2	12	4	125	..	8
	Boys ..	..	..	4	..	..	..	6	..	..
Total ..	Girls ..	13	63	338	8	26	10	380	..	19
	Boys ..	..	22	37	..	..	..	29	..	..

The nationality of the pupils was as under :—

—		Europeans and Eurasians.	Native Christians.	Hindus.	Muham- madans.	Others.	Total.
Coimbatore.	Girls ..	63	189	132	..	..	384
	Boys ..	22	3	14	..	..	44

The figures are sufficiently startling when compared with the population under the several nationalities, or rather religions. Steps are being taken to advance female education in Coimbatore.

Normal School.—Only 13 men passed as against 20 in the previous year. The class for females proved a failure; of the 6 female students only 1 passed the Third-Grade Examination. None but Native Christians sought admission; not a single woman of any caste applied.

CHAPTER XII.

ADMINISTRATION.

REVENUE.—Establishment.—Village Officers.—Collection System. JUDICIAL.—Civil Justice.—Courts.—Statistics of Suits.—Criminal Justice.—Courts.—Statistics of Cases. POLICE.—History.—Distribution. JAILS.—Central and District.—Subsidiary. REGISTRATION.—Offices.—System.—Statistics. PUBLIC WORKS.—Officers.—Buildings. MEDICAL DEPARTMENT. METEOROLOGY. POST OFFICE.—Staff.—Statistics.—Money Orders.—Savings Banks. SALT.—Sources of Supply. ECCLESIASTICAL. LOCAL FUNDS.—District Board.—Sources of Income.—Receipts and Expenditure.—Communications.—Education.—Medical Services.—Vaccination.—Sanitation.—Bungalows.—Chattrams.—Markets. SPECIAL AND LOCAL FUNDS. MUNICIPALITIES.—Income.—Items of Expenditure. ARRACK.—Legislative History.—Arrack-farming System.—Improved Excise System.—Monopoly Supply and Separate Vend System.—Free Supply System.—Toddy.—System.—Statistics for 1882-83.—Arrack.—Toddy.

REVENUE ADMINISTRATION.

This is on the same lines as in the rest of the presidency. For complete lists of establishment, see Appendix. The Collector is local head of the department, and is assisted by a Sub-Collector at Erode, who is in charge of the Erode, Dhárápuram, Bhaváni and Karúr taluks; a Head Assistant at Polláchi, in charge of Polláchi, Udamalpet, and Palladam taluks; a Deputy Collector at Satyamangalam, in charge of Satyamangalam and Kollegál taluks; and usually an Assistant, who is placed in charge of the head-quarter taluk. There is also a Deputy Collector in charge of the treasury at head-quarters. The Collector is also *ex officio* District Magistrate and President of the Local Fund and Municipal Boards; each of the other officers is a first-class Magistrate, except the Assistant when he has not passed his examinations. Each officer, except an unpassed Assistant, has also appellate powers over the second and third class Magistrates within his division.

Immediately subordinate to the above revenue officers are the various taluk officers and establishments. Each Tahsildar, who is also a second-class Magistrate, has the usual taluk establishment; Bhaváni and Kollegál offices are, however, one gumastah short. The Deputy Tahsildar is merely an assistant to the Tahsildar, but darkhast and transfer matters he is now allowed to dispose of without reference to the Tahsildar; he has also usually second-class powers. There are three Revenue Inspectors to each taluk, except in Coimbatore, Erode, and Palladam, each of which has four on account of its size and importance. Each of these works in his own division under the Tahsildar. The status and class of these men will usually bear, and is now in process of receiving, improvement.

The village establishment is tabulated as follows :—

Revenue villages.	Village Munsiff.	Munsiff-Monigara.	Revenue (Sáni) Monigara.	Karnam.	Tandalgara.	Taliyáris, (Kavalgara).	Toties.
1	2	3	4	5	6	7	8
1,457	..	1,094	943	993	1,217 (defec- tive)	1,483	1,557 (defec- tive)

The Village Munsiff is only a judicial and police officer, and has nothing to do with the revenue unless specially ordered. The revenue officer is the Sáni Monigar, who is responsible for the duty of collection and remittance. In some small villages the offices of Munsiff and Sáni are united as shown in column 3. The Karnams are most important officers, having charge of all village accounts except No. 10 (daily collection account) and No. 12 (remittance account), which, however, they usually write, as the Monigar is frequently illiterate. It is the Karnam who reports on applications for waste land or transfers of puttahs, on the heirs of deceased puttahdars, on encroachments on fields, on the use or disuse of Government water, and the other matters which most concern the ryot; in several of these matters the Monigar joins, as he is intimately acquainted with the people. The Tandalgars are the village assistant collectors to the Monigars, fetching the ryots or taking their payments to the Monigar's office. The Toty is the person who takes the remittances from the village to the treasury: the honesty and trustworthiness of these poor people, who are badly paid and hard worked, is wonderful; they carry for many miles, with punctuality and care, sums which would be undreamed of fortunes to them, but in no case is the trust abused. They are a sturdy, independent class of people, always Pariahs, and hold their own in the villages. The Taliyári, who is often the Toty, is the village police officer (see Police).

None of the village officers is paid in cash, but by ancestral assignments of the assessment on certain fields. The ownership of the lands on which the assignments have been made is complicated; there are three possible cases, and the pay of an officer may contain examples of all three: (1) in assigning the Government share on certain fields it happened sometimes that the land was waste; in this case the property in the land, as in other grants of waste land, passed to the then village officer; (2) grants were made of land revenue upon fields in the then possession of the grantee; it is obvious here that only the land revenue was the subject of the grant, as Government could not grant what was not theirs to give. In this case, when there is a change of officers, it is obvious that only the assessment on the land is payable to the new office-holder. The third case was the grant of the assessment upon fields in the possession of others; here the ryot merely pays the assessment

to the office-holder, the property in the land of course remaining with the ryot himself. These *mâniems* have been recently recorded with a view to enfranchisement upon the approaching introduction of Mr. Pelly's scheme, by which posts will be graded and paid in cash.

These offices are all hereditary and are clung to with the utmost affection, not so much for the pay, which is poor, but for love of the position. In most cases the *Monigars* and often the Village *Munsiff* are not merely hereditary office-holders, but hereditary heads of their villages, and the ryots look up to and obey their "*Goundans*," as the village head is called *par excellence*, with considerable steadiness even in these days of change.¹

There can be no doubt but that this ancestral position is very important; the plan of money payments will merely give the officers decent and settled pay, but does not give any increased hold over the officers; this depends upon the system of control. The best guarantees against misconduct are the fear of losing an ancestral post, the habits of loyal obedience to the *Sirkar* engendered by generations of public service, and the fact that these office-holders are usually the men of best position in the village and less liable therefore to betray a trust. The case of the *Toties* is a remarkable instance of integrity based upon hereditary trust; personally they are little better perhaps than others, but, officially, great trust may be reposed in them.

The collection system as recently adopted is somewhat peculiar; the *kists* (instalments of revenue) are six, from November to April—one-eighth, one-eighth, one-fourth, one-fourth, one-eighth, and one-eighth respectively. It was the custom that *Monigars* should send in remittances at any date or no date in the month, and therefore, until the month was over, it was impossible to say that a village was behind-hand. When the remittance came, it might, or might not, be equal to the demand for the month; nor was there any fixed plan for the issue of demand notices upon arrears. The result was very heavy arrears, not only from month to month, but after the end of the *kist* months. The *taluks* are therefore now divided into local circles of villages, dates are fixed on which the villages of each circle must send in their remittances, which should equal the *kist* for the month; lists of ryots in arrears, with the amount due by each and demand notices for the *Tahsildar's*

¹ In a recent case of embezzlement the *Monigars* sent word round the village that receipts were not to be shown to the inspecting officer, who was an influential *Tahsildar*, and out of 800 receipts only 30 were produced, the most ludicrous excuse being given for non-production; of course, this was merely to obtain a delay; coercive process was promptly issued for the nominal arrears shown in the accounts, since the ryots would not show their vouchers, and the amount was "collected," the real truth being that the *Monigars* had during the delay borrowed the embezzled amount, entered it in the accounts, and remitted it as recent collections. This and similar instances occurred shortly after the famine, which had disorganized collection matters to a vast extent; as shown below, the present system prevents such cases.

signature, are sent in *with* the remittances. Monigars failing in any one item of this duty are promptly dealt with. The result in the second year of the system is that monthly collections are prompt and equal to about 98 per cent. of the demand; the ryots save a vast amount of subsequent trouble, and embezzlement is practically impossible.

The six kists² are but moderately suited to the district; the usual month for family division of produce is Tei (January-February); kambu is indeed reaped by November and December, but this is the staple food-grain and is reserved as such and not sold if possible; moreover, it takes time to put it on the market, and poor prices are realized at first, as now kambu is very indigestible.³ For paying the revenue, the ryots look to the pulses sown with kambu, which come in from December to February, to cotton, which comes in somewhat later, and to the garden crops of tobacco, chillies, &c., which come in from January onwards. Hence the ryots would benefit, and much official trouble be saved, by fewer kists, omitting especially the first two.

Even on two-crop wet lands which are of small area, the first crop, which is frequently ragi, is used for food, especially by the laborers employed in cultivation; the second crop gives the profit and pays the kist. Single-crop wet lands only yield in February.

JUDICIAL ADMINISTRATION.

CIVIL JUSTICE.—For some years after this district passed into the possession of the British, there were no regular courts of justice established; the Collector disposed of all matters of a judicial nature, whether civil or criminal, arising within the district.

In 1806 a Zillah Court was established at Dhárápúram under Regulations II and III of 1802, with, however, very limited powers, and the judicial powers of the Collector were abolished. A Sadr Amin and Mufti Sadr Amin's Court was at the same time established. The Judge of the Zillah Court was assisted by Native Commissioners, and appeals lay from it to the Provincial Court at Trichinopoly. These Commissioners were empowered to hear suits up to Rs. 80, and were remunerated by fees at the rate of 1 anna per rupee on the value of the suits filed before them.

In 1816 the Zillah and Pandit and Mufti Sadr Amin's Courts were transferred from Dhárápúram to Coimbatore, and they continued up to

² Formerly there were eight kists, by which only 30 per cent. was demanded up to 31st January instead of 50 as now; the Board (Proceedings, No. 1539, dated 9th January 1875) proposed six for Coimbatore on data unknown; the Collector's opinion was asked, and he simply reported his acquiescence.

³ Cholera, which often begins as diarrhoea, is frequently attributed, and in some cases distinctly traced, to the use of raw, indigestible, and sometimes raw, grain, especially of the dry cereals; as stated in the section upon cholera, the almost invariable season for cholera in the district is November to February.

1822, when they were abolished and the district included within the jurisdiction of the Salem Court. It continued under this court up to 1826. In 1827 a court styled "The Auxiliary Court," presided over by an "Assistant Judge," was established under Regulations I and II of 1827, as also a Sadr Amin's Court, the Assistant Judge having the same civil powers as the Zillah Judge. The regular appeals from the original decisions of the Assistant Judge lay, in suits up to Rs. 1,000, to the Zillah Court at Salem, and in suits above 1,000 rupees to the Provincial Court at Trichinopoly.

The Sadr Amin assisted the Judge in disposing of appeals referred to him from the decrees of the Munsiffs.

The "Commissioners' Courts" were abolished by Regulation VI of 1816, and "Munsiffs' Courts" were established in their stead at Coimbatore, Udamalpet, and Cheyūr.

About 1828 the Zillah Court at Seringapatam having been abolished, Kollegal with one Munsiff was added to the Coimbatore district.

In 1840 a Munsiff's Court was established at Ootacamund, the civil administration of which was till then conducted by a Military "Court of Requests."

In 1843, when Act VII of 1843 was introduced, Bhavāni and Karūr, which till then had been subject to the Zillah Court of Salem, were transferred to this district with a Munsiff's Court at each station, making in all seven Munsiffs' Courts, viz., Coimbatore, Udamalpet, Cheyūr, Kollegal, Ootacamund, Karūr, and Bhavāni.

In 1866 the Bhavāni and Cheyūr Courts were abolished, and, in their stead, one court was established at Erode.

By Act VII of 1843 the "Auxiliary Court" was abolished and a "Civil and Sessions Court" was established in its stead, as were also a Principal Sadr Amin's and Mufti Sadr Amin's Court in addition to the already existing Sadr Amin's Court, which was thenceforward styled the "Hindu Sadr Amin's Court." The Principal Sadr Amin's jurisdiction extended over suits up to Rs. 10,000 in value, and that of the other courts up to Rs. 2,500.

About 1847 the "Hindu Sadr Amin's Court" was abolished, in 1862 that of the Mufti Sadr Amin, and in 1863 that of the Principal Sadr Amin.

A temporary Principal Sadr Amin's Court was established in 1864 for the purpose of clearing off arrears which had accumulated, and this again was abolished in 1865.

Another similar court was established at Karūr in January 1873, and was in turn abolished in 1874.

The Principal Sadr Amin, whose court was abolished in 1863, had criminal powers up to two years' imprisonment and a fine of Rs. 200, and the "Mufti" and "Hindu Sadr Amin" could dispose of cases punishable with six months' imprisonment. The Munsiff's Court at Ootacamund was abolished in 1855, and a Principal Sadr Amin's Court

was established in its stead. This was again converted into a Subordinate Judge's Court in 1858.

The latter court continued up to 1863, the Sessions Judge of Coimbatore holding sessions there when necessary.

In 1863 the Sub-Court was abolished, and a "Civil and Sessions Court" was established in its stead.

In 1868 the Nilgiris were constituted into a separate district and placed under a Judicial Commissioner. They were again included, for judicial purposes only, in the Coimbatore district by Act II of 1881, and placed under a District Magistrate, who was constituted an additional Sessions Judge with power to try all offences not punishable with death or transportation for life. A Subordinate Judge was at the same time established with jurisdiction over the Nilgiri district, and with power to try small causes up to Rs. 500. The Sub-Magistrate of Gúdalúr was also specially invested with the powers of a District Munsiff. In 1873 the Civil and Sessions Court, established under Act VII of 1843, underwent a change in designation, and is now called the District and Sessions Court.

At present the ordinary Civil Courts in this district are of three grades: (1) Village Munsiff's Court, (2) District Munsiff's Court, (3) the District and Sessions Court.

Village Munsiffs' Courts.—These are petty courts presided over by officers called Village Munsiffs. There are 1,253 Village Munsiffs, of whom, on an average of five years (1878-82), 208 exercise civil jurisdiction, trying an average aggregate of 2,420 suits per annum; for 1882 there were 2,927. Village Munsiffs are appointed by the Collector, and were empowered by Regulation VI of 1816 to hear, try, and determine such suits as might be brought before them for the recovery of sums of money and other kinds of personal property, the amount or value of which should not exceed Rs. 10; but they were prohibited from taking cognizance of any suit for damages on account of personal injury and the like, or of suits in which they or their servants or dependents were personally interested, or in which the defendants were not actually resident within the limits of their jurisdiction. Madras Act IV of 1883 has raised the suit value to Rs. 20 and has otherwise affected the Village Munsiff's jurisdiction and procedure. As arbitrators they can determine suits up to a value of Rs. 200. Few of the Village Munsiffs in this district at present exercise their civil jurisdiction.

District Munsiffs' Courts.—These were constituted under Regulation VI of 1816, the nomination resting with the Zillah Judge, subject, however, to confirmation by the Provincial Court. Appointments to this post now rest with the High Court.

There are at present five regular District Munsiffs in this district, viz., at Coimbatore, Udampalpet, Erode, Karúr and Kollegál, besides the Gúdalúr Sub-Magistrate and District Munsiff.

In 1862 the salaries of District Munsiffs were fixed as follows:—

first class at Rs. 300, second class at Rs. 250, third class at Rs. 200. The Munsiff at the first station is of the first class, at the third and fifth of the second class, the others are third class.

The District Munsiff of Coimbatore has jurisdiction in the taluks of Coimbatore and Palladam south of the Madras Railway; of Udamalpet in that taluk, Pollachi, and the western third of Dhárápúram; of Erode in that taluk, Bhaváni, the greater part of Satyamangalam, and in Palladam north of the railway; of Karúr in that taluk and the eastern two-thirds of Dhárápúram; of Kollegál in that taluk and in the north-western portion of Satyamangalam.

All the courts have the same fixed establishments, consisting of nine gumastahs or clerks, of whom the head gumastah gets Rs. 20 per mensem, the second Rs. 14, the third and fourth Rs. 11, and the rest Rs. 10 each. There are also two peons on Rs. 5 each and a masálehí on Rs. 4.

District Munsiffs have small-cause powers (without appeal) in suits up to Rs. 50, and by Act III of 1873 they were invested with power to hear and dispose of suits up to Rs. 2,500 in value.

In regular suits before them, all decrees passed by them in contested suits and certain orders passed by them in execution are open to appeal before the District Court. They are expected to pass twenty decrees per mensem in contested regular suits, exclusive of the number they may pass in small cause and other suits.

District Court.—This is the principal court of the district. To it lie the appeals from the decisions and orders of the District Munsiffs and from certain *quasi-judicial* decisions passed by the Collector and his Assistants, and it has original jurisdiction in all suits brought for the recovery of real and personal property of a greater value than Rs. 2,500.

It has also the power to withdraw original suits from the file of subordinate courts and try them itself, or refer them to other subordinate courts competent to hear them.

There is no Sub-Judge in the district proper, but only on the Nilgiris.

The Collector and his Assistants in independent charge have also judicial functions under certain Acts, viz. :—

1. Act XII of 1816, which relates to—

- (a) Claims to lands or crops, the validity of which depends on the determination of an uncertain or disputed boundary or land mark; and
- (b) Disputes regarding the occupancy, cultivation, and irrigation of land which may arise between zemindars and their ryots.

2. Act IX of 1822, relating to malversation on the part of public servants in revenue matters.

Prosecutions under this Regulation are rare now, offenders being generally tried under the Penal Code.

3. Act VI of 1831, which relates to the possession of, or succession to, hereditary village offices, and the emoluments pertaining thereto.

4. Act VIII of 1865 (Rent Recovery Act).^a

The following tables are illustrative of the nature of the district suits and other matters; they have been extracted from the various reports of the High Court.

Suits filed during five years in the Regular Courts.

Court.	Number.	Ordinary.					Small Causes.				
		1878.	1879.	1880.	1881.	1882.	1878.	1879.	1880.	1881.	1882.
District Court ..	1	17	18	20	14	16	..	..	..	..	..
Dist. Magistrate Courts ..	5	3,187	3,445	3,436	3,302	3,212	1,551	1,584	1,515	1,031	1,452
Revenue Courts ..	..	90	32	32	28	51	..	..	..	..	..
Total ..	..	3,294	3,495	3,488	3,404	3,279	1,551	1,584	1,515	1,031	1,452

Note.—Of these suits 1,526 ordinary and all small cause suits were for money, and 1,053 were title and other suits; 31.59 per. cent. of the ordinary suits were contested as against a presidency average of 32.66, and 23.12 of the small causes against 23.26. The Nilgiri Sub-Judge's Court is excluded.

The next table shows civil appeals in the District Court for five years, including remanded appeals:—

1878	..	..	..	..	..	147
1879	..	..	..	..	..	171
1880	..	..	..	..	..	185
1881	..	..	..	..	..	207
1882	..	..	..	..	..	204

In table No. 3 are entered suits filed in 1882, classified according to value.

Value.					Number.	Percentage to total filed.	Presidency percentage to total filed.
Below	10	..	..	..	3,033	38.06	12.61
10 to	50	..	..	..	1,762	22.79	18.70
50 to	100	..	..	..	1,200	16.26	17.47
100 to	500	..	..	..	1,453	18.86	19.23
500 to	1,000	..	..	..	160	2.02	2.15
1,000 to	2,500	..	..	..	66	.82	.29
2,500 to	5,000	..	..	..	19	.21	.10
5,000 to	10,000	..	..	..	3	.03	.08
Above	10,000	..	..	..	2	.02	..
Not capable of valuation					28	.34	.43
Total ..					7,859	100	100

^a The above was written by Mr. Rice in 1875; with a few alterations and additions it has been adopted for this manual.

The Coimbatore figures include 2,742 suits in Village Munsiff's Courts, all below Rs. 10; it is not clear whether the presidency figures include similar suits.

The following table shows suits, other than revenue-suits, compared with population, or the litigiousness of the people:—

—	1882.				Average of five years, 1878-82.		
	Popula- tion.	Suits.	Popula- tion per suit.	Suits per appel.	Suits.	Popula- tion per suit.	Suits per appel.
District	1,537,690	5,117	324	16.72	4,860	340	18.2
Presidency, exclu- sive of Madras ..	29,419,747	147,871	199	9.72	161,002	182	10.7

The district on an average contributes 3 per cent. of the civil work of the presidency, the population being 5.63 per cent.

Table 5 shows the nature of the suits for 1882.

Group.	Nature of suits.	Ordinary suits.			Percentage of group to total suits.	Small causes.		Percentage of group to total suits.
		Village Munsiffs.	District Munsiffs.	Others.		District Munsiffs.	Others.	
1	Money due on contract on {	102	1,338	4	62.56	870	..	98.99
	Written promise of sum certain..							
	Unwritten do. do. ..	2,636	136	..		367	..	
	On account stated ..	47	52	2		235	..	
	Money paid and received {	..	14	..		1	..	
	Goods sold and delivered ..	..	6	..		..	..
	Breaches of contract, &c. ..	..	4	..		10	..
	Damages for injuries ..	..	17	..		3	..
	Suits to compel specific performance of contracts, &c.	..	..	..		..	..
	Suits to set aside contracts ..	..	16	..		..	..
2	Suits to settle accounts, &c.
	Suits connected with religion and caste ..	..	..	..		..	..
	Suits regarding adoption ..	..	..	..		..	..
3	Suits relating to mortgage of immovable property.	..	498	..	6.47
	Suits for partition ..	..	34	..		..	..
	Other suits for real property ..	..	..	..		..	..
4	All others ..	26	1,290	49	21.87	95	..	6.01

Tables 3, 4, and 5 seem to show that the population of Coimbatore is neither litigious, rich, nor commercial; that it does not borrow very much money or in large sums, or much beyond its means, and that much of its borrowing is of very petty sums by one ryot from another upon mere verbal agreements.

The receipts and charges for 1882 were Rs. 1,15,882 and Rs. 87,220 respectively; process receipts and charges were Rs. 26,240 and Rs. 19,136.

CRIMINAL JUSTICE.—The criminal courts in this district are of five grades, viz.:—(1) the courts of the Village Magistrates, (2) the courts of Subordinate Magistrates of the third class, (3) the courts of Subordinate Magistrates of the second class, (4) the courts of Subordinate Magistrates of the first class or full-power Magistrates, (5) the Court of Session.

Village Magistrates are empowered to take cognizance of petty thefts where the value of the property stolen does not exceed one rupee, assaults, and abusive language.

They have power to lodge a culprit in the village choultry for twelve hours, or to put him, if he is a low-caste man, in the stocks for six hours. Their chief use is, however, in assisting in the detection of crime.

Subordinate Magistrates of the second and third classes exercise the powers entrusted to them under the Criminal Procedure Code.

In this district at present all the Tahsildars and Deputy Tahsildars are invested with second-class powers, which they exercise concurrently with their revenue functions in their respective taluka.

Taluk Sheristadars are, as a rule, invested with second-class powers, which they exercise only when the Tahsildar is absent from head-quarters, or in emergent cases. They are also Presidents of the Bench of Magistrates in Coimbatore, Erode and Karur Municipalities; these are Honorary Magistrates exercising collectively third-class powers within municipal limits. There is always a Sub-Magistrate of the second class in charge of the Coimbatore town. The Magistrates of the first class are—

- (a) The Magistrate of the District.
- (b) The Joint Magistrate, who is always the Sub-Collector.
- (c) The Head Assistant Magistrate, who is always the Head Assistant to the Collector.
- (d) Such Assistant or Deputy Magistrates as have passed the prescribed tests and have been invested with first-class powers.

The jurisdiction of the Magistrate of the district extends over every part of the district.

The other Magistrates of this grade are ordinarily placed each in charge of a division of the district, and within such division exercise all the powers of the District Magistrate.

The Court of Session tries only cases committed to it by the Magistrate. To it lie appeals from sentences passed by Magistrates of the first class, and from the sentences of the Sessions Court an appeal lies to the High Court. A session is held on the first Monday in every month, and a special session immediately before the annual recess.

The following table gives some particulars as to cases compared with population; cases before Village Magistrates are excluded :—

Year.	Total cases.	Percentage of cases to total population.	Percentage of cases to population in presidency district.	Population per case in district.	Population per case in presidency.	Appeals.		
						Number.	Cases per appeal.	Cases per appeal for presidency.
1881	5,833	4.03	6.63	284	204	144	40.6	41

Considering that there are three Municipalities which supply a great number of petty charges of nuisance, the ratio of cases to population is very satisfactory. The Bench Magistrates disposed of 1,044 out of 5,833 cases; these were principally municipal cases of nuisance, with petty assaults and so forth, occurring within municipal limits. Magistrates of the second and third class disposed of 4,506, the other Magistrates of 129 and the Sessions Court of 64 cases.

The nature of the cases will be seen by Appendix No. 15. Crime is not rife in this district; house-breaking, ordinary theft and rioting are the chief offences; the rioting is seldom serious except when the right and left hand factions fall out, or rival classes of Goundans dispute about temple matters. Dacoity and robbery used to be prevalent, but have of late died out to a great extent.

POLICE

From a report in 1805 by the Collector (Mr. Garrow) and from other sources, such as Buchanan, it is gathered that on the decay of the Vijayanagar empire a number of poligars came into being; these assumed judicial powers both civil and criminal, extending to those of life and death. These poligars were predatory chieftains, under whom were head kavalgars, and under these in turn the village kavalgars, who acted as police or plunderers as occasion or their master's command might serve. When Mysore extended its rule over the district, a powerful military police was established, both to keep the peace and to overawe the poligars; these kavalghar peons numbered between 10 and 15,000 men in the taluks north of the Noyil, and were partly employed in garrisoning forts under killadars, partly in police stations under hoblidars at various centres. This was really a rampant military despotism in which robbers might have been overawed, but the people were subject to the caprices and exactions of those who held the sword.

This instrument, which Haidar found ready to his hand, he developed ; his police system was one of terrorism, and while he did not prevent plunder which eventually supplied his own coffers, his vigilance against crime or offenses, real or supposed, was unremitting, and punishments heavy and prompt through his numerous officers. As will be seen in Wilks, Haidar added the post-office to his police system, using its officials not as mere carriers, but as officers of an intelligence department, who penetrated the secrets even of households, especially of the wealthy, and transmitted their information direct to Haidar. In Tipu's time this system became relaxed, and for some years before its acquisition by the British the district was neglected ; it also seems that the rent-free lands by which the village police were paid were resumed ; hence the greatest oppression and license by the uncontrolled and unpaid revenue servants, and the starting up of rebels and robbers all over the country. This was promptly checked upon the British assumption, but no system had in 1806 been adopted, and the force was unable fully to cope with crime. The only police were the revenue servants, viz., the tahsildars, monigars, kandechar peons, and taliyaris ; and as the revenue work gave them much greater advantages, police work was naturally neglected, and in many villages the people had recourse to private kavalgars, who, under the system which still appears to obtain in the Kallar country, preserved their own villages from depredation, and, in case of crime, either detected the offender, recovered the property, or made good the loss. The " kuditaliyari," or privately-paid village watchman, is still an institution in Coimbatore ; he is frequently a Koravan, and his office seems to be hereditary and paid by grain contributions.

In the towns the system of night patrols was adopted, the town being divided into wards, each of which furnished men who not only did police duty by day and night, but kept the streets clean of dirt, and conserved the avenues. These men appear to be the revenue toties, who, however, in the villages are public servants, and, though Pariahs, will on no account act as scavengers, though their relations possibly may.

Shortly after Mr. Garrow's letter the judicial regulations were introduced, by which the old village police system was done away with, and the thaus or station system introduced, the Zillah Judge, a mere court officer, being placed at the head of it. The so-called police were, however, mere parties of men of more or less intelligence and unscrupulousness, and being entirely outside the village and revenue system, and totally disconnected from the only persons who had real authority and information, were either useless or mischievous, while there was an awkward division and clashing of authority. In 1816 (*vide* Regulation IX of 1816) the then natural system was reverted to ; Collectors with their tahsildars and village munsiffs became the magistracy, and police executive functions were *ex officio* vested in them, the village taliyaris

being the rank and file of the force. The taliyáris, however, who were the backbone of this system, were never properly paid; in the original settlement allowances were granted for revenue servants, but not for the police duties of the taliyáris, whose mánuen lands, it will be remembered, had been resumed by Tipú. They were consequently unwilling to work, though they were liable to punishment if they failed to detect crimes which occurred in their respective villages. They were paid by fees, which they collected from the villagers under the well-known kaval system. Several attempts were made by District Magistrates to get their position bettered, but with no avail; though waste lands were in 1844 assigned as taliyári inams, they, being immemorial waste, were of poor quality, and required capital for their development. In some cases the revenue on certain puttah lands was assigned, but in most cases they were waste lands and remained waste, so that the taliyáris being almost without pay, it was not to be wondered at "that in no district has crime been more rife and detection less successful" (1846). Money payments were sanctioned in 1862 and the inam lands resumed, but again cash payments were withdrawn and the inams restored. Under the influence of high prices and extension of cultivation, the lands have now a small value in most cases, but the taliyári is still miserably off. As the district developed, the duties of the superior revenue officers became more and more varied and burdensome, so that the need of a semi-distinct, organized force, both for prevention and detection, became evident; hence in 1859 Sir William Robinson's police system of a *quasi-military force*, divested of all judicial functions and confined to police duties alone, was introduced into the district. This is too well known to need description; it need merely be said that though separated from the magisterial system, its working is to a certain extent supervised by the magistrates, while in its detective capacity it is in intimate connection with the ancient village police officers. For police purposes the Nilgiris and Wynnad are attached to the Coimbatore district; allowance has to be made for this in statistical matters. The police head-quarters are at Coimbatore; the taluks of Coimbatore, Palladam, Pollachi, and Udampet, with the Nilgiris, &c., are under the immediate charge of the Superintendent, who has also, of course, the chief authority over the whole district. The remaining taluks are in charge of the Assistant Superintendent, who is also a European officer with head-quarters at Erode. The head-quarters of the Deputy Inspector-General of this range are also at Coimbatore.

The total police force of the district, exclusive of the Nilgiris, on the 31st March 1884 was as follows:—

Division.	Place.	Inspector.	Sub-Inspector.	Chief Constable.	Head Constables.				Constables.			Total.
					First grade.	Second grade.	Third grade.	Fourth grade.	First class.	Second class.	Third class.	
A.	Head-quarter Office, Coimbatore.	3	..	..	2	2	3	1	3	..	1	15
"	Sub-division Office, Erode.	..	..	..	1	..	1	..	1	..	..	3
"	Head-quarter School	..	2	..	1	2	..	1	6	1	54	67
I.	Jail Guard	..	..	1	..	2	3	6	12	16	57	97
A.	Reserve	..	1	..	1	3	2	4	43	39	3	96
B. Tn.	Coimbatore	..	1	..	1	1	1	1	11	12	18	47
B-I.	Coimbatore taluk	..	1	..	..	3	1	5	13	12	17	52
B-II.	Mettpalhiyam	..	1	..	..	1	..	2	6	6	8	25
D.	Udumalpet	..	..	1	..	1	2	1	7	9	13	34
E.	Pollachi	..	1	..	..	..	3	1	17	5	18	45
F-I.	Palladam	..	..	..	1	..	..	3	11	11	14	39
F-II.	Avanashi	..	1	..	1	..	1	1	6	7	9	26
G.	Bhavani	..	1	..	..	1	1	5	13	13	8	42
H.	Erode	..	1	..	2	..	3	4	17	20	24	74
K.	Karur	..	1	..	1	3	1	4	14	17	17	59
L.	Kollegal	..	1	..	..	1	3	3	23	21	23	75
M.	Dharmapattanam	..	1	..	..	1	2	5	16	12	21	58
N-I.	Satyamangalam	..	1	..	..	2	..	2	19	18	17	59
N-II.	Talavadi	..	1	..	1	..	1	2	10	10	12	37
	Total	18	1	2	12	23	25	50	230	226	334	946

A list of all police stations, and a table containing details relating to executive police, will be found in the Appendix.

Omitting jail guards, treasury guards, and office orderlies, the proportion of police to population, excluding the Nilgiris, is 1 in 2,000; there is 1 constable for every 8 surveyed square miles. In the Appendix will also be found statistics of crimes and offences, which may be consulted for further information as to police duties and work.

CENTRAL AND DISTRICT JAIL.^a

The central jail was commenced in 1862, was partially occupied in 1865, and was completed in 1868. The establishment was entertained

^a Communicated by H. Grimes, Esq., then Superintendent of the Central Jail (1883).

in 1866, during which year the Superintendent and all subordinate officers were appointed.

The jail is situated on a plain to the north of the cantonment and to the north-east of the town of Coimbatore. The country about the jail is cultivated; the land attached to the jail, about 175 acres exclusive of that on which it stands, is only slightly cultivated owing to the pooriness of the soil and the great want of water.

The jail is not built on the standard plan. It contains twelve compartments on yards radiating to the outer walls from the central tower, the hospitals and quarantine wards being in separate enclosures abutting from the outer wall on the north-west side, and the district jail buildings in another enclosure on the opposite or south-east side. Immediately to the east of this is another large enclosure which is to contain the close prison. This prison is now under construction; it is to accommodate ninety-six prisoners, each in a separate cell. There will be six blocks of cells radiating from a centre, each block to contain sixteen cells; in the enclosure there will be a warders' lodge, store-room, bath, &c. The whole prison—outer walls, &c.—is being built of pisé; the cells will be roofed with arches of brick-work, and, with the exception of the door and windows to the warders' lodge and close to the store-room, there will be no wood-work in the whole building. The accommodation in the central jail consists of seven blocks of wards and cells, with workshops, kitchens, and other small buildings. The adult males are separate from the females, juveniles, and debtors; there is a block of twenty cells for punishments. The capacity of the jail, including the close prison, is for 1,324 prisoners, viz., 1,228 males, 52 females, 22 juveniles, and 22 debtors, exclusive of the district jail, the capacity for which is 180 prisoners, together with hospital accommodation for 36 patients. The total capacity of the two jails is for 1,540 prisoners.

Prisoners are received from various districts in the presidency, viz., Cuddapah, North and South Arcot, Trichinopoly, Madura, Tinnevely, and Malabar; there are also a number of Burmese and one Chinaman, all under sentences of transportation for life.

The prisoners are employed extramurally on the jail farm and gardens, and intramurally on manufactures. The labor on the farm and gardens can hardly be called extramural, as the whole of the land attached to the jail is enclosed by a wall twelve feet in height. *Bond fide* extramural labor is in my opinion work on the road outside the jail precincts.

The jail farm has not been successful owing to the want of a proper person to superintend it; also to the excessive pooriness of the soil and an insufficiency of water, although there are some twenty wells in various parts of it. The vegetable gardens comprise about twenty-five acres, and supply vegetables to the prisoners all the year. The prisoners are supervised in the farm and gardens by one European and three native warders. They work in gangs, varying in numbers; each gang is

separately in charge of overseers and maistries, who are themselves convicts.

Manufactures were carried on to a large extent intramurally up to 1882, since when they have been discontinued under the order of the Government of India: they consisted of cotton cloth and cumbly weaving, boot and sandal making for the Police Department, cotton carpets, cotton and wool spinning, coir mat and rope making, carpentry, sawing timber by hand and machinery, masonry work, smiths' work, basket and chair making, and numerous miscellaneous works. In 1875 a large quantity of weaving machinery, consisting of power looms, warping, winding, and bobbin machines, were transferred from the Penitentiary in Madras; the looms, instead of being worked by steam-power, are worked by cranks and treadmill.

At the time of writing, with the exception of carpentry, all manufactures have ceased. The prisoners do all the menial work of the jail, viz., cooking, scavenging, washing clothes, grinding grain (this is done by the females); they are also employed, when required, in making the cloth for their own clothing, also cumbles and sleeping mats.

The health of the prisoners has been generally good; it has been exceptionally so during the past year, 1883. From 1866 to 1877 there had been only 3 cases of cholera; 1 was fatal. In 1877, the year of the famine, when the jail was excessively overcrowded, cholera broke out and carried off 45 prisoners, but the death-rate under this head was comparatively small to that under other heads. The total mortality in both jails was 638 during the year; the average daily strength was nearly 2,000.

In 1873 there was a good deal of sickness, principally dysentery; this sickness was attributed to excessive punishment by restriction of diet, but whether such was the case has never been proved.

In 1882 there was a very sharp epidemic of cholera, which carried off 19 prisoners; this was an extraordinary epidemic, as cholera was not prevalent in the neighbourhood of the jail: the first prisoner attacked had also been in jail some years. The most prevalent ailments amongst the prisoners are diarrhoea, dysentery, anæmia and Guinea-worm.

The diet consists of ragi and cholam on alternate days, except Wednesday and Sunday evening, when rice is issued; 5 ounces of meat without bone is issued three days a week; fresh fish can be substituted for meat on one day. Vegetables and ingredients for making curry are issued daily. The amount of ragi or cholam for each male prisoner is 24 ounces, and 26 ounces of rice; the women and juvenile prisoners get 20 ounces of grain and 4 ounces of meat.

Each prisoner gets a full meal at 11 A.M. and 5-30 P.M. with a chatty of ragi or cholam early in the morning before going to work. The health of the prisoners is in no way deleteriously affected by their food or labor. As a rule, all prisoners improve in their general appearance after they have been imprisoned some little time, in the central jail especially; but in the district jail, which only contains the

prisoners of the district sentenced to a year and under, they do not improve in health so rapidly; they come in a half-starved emaciated state, and, owing to their short sentences, they have not time to benefit much on the good scale of diet allowance.

SUBSIDIARY JAILS.

There are sixteen subsidiary jails, information regarding which is tabulated as follows:—

Number.	Subsidiary jails.	Tahsildar or Deputy Tahsildar's head-quarters.	Number of wards.		Number the jail will hold.		Remarks.
			Males.	Females.	Males.	Females.	
1	Coimbatore ..	Tahsildar ..	3	1	24	2	Numbers 3, 5, 6, 7, 15 are excellent sub-jails of the standard pattern. No. 1 is a fairly good jail and comfortable for prisoners. No. 9 is an excellent jail, but very badly situated within and in full view of the Tahsildar's catcherry and treasury. No. 15 is also good and better situated than No. 9.
2	Mottupalaiyam ..	Dy. Tahdr.	2	2	12	6	
3	Palladam ..	Tahsildar ..	2	2	12	6	
4	Aranshi ..	Dy. Tahdr.	2	2	12	8	
5	Pollachi ..	Tahsildar ..	2	2	12	6	
6	Udumalpet ..	Do. ..	2	2	12	8	
7	Erode ..	Do. ..	4	2	18	9	
8	Perundurai ..	Dy. Tahdr.	2	1	9	6	
9	Bhavani ..	Tahsildar ..	3	2	13	9	
10	Kollegal ..	Do. ..	2	2	9	8	
11	Satyamangalam ..	Do. ..	2	2	8	8	
12	Talavadi ..	Dy. Tahdr.	1	1	8	4	
13	Kuror ..	Tahsildar ..	2	2	16	8	
14	Aravakurhi ..	Dy. Tahdr.	1	..	4	..	
15	Dhārāpuram ..	Tahsildar ..	2	2	12	6	
16	Kāngyam ..	Dy. Tahdr.	2	2	6	5	

REGISTRATION.

The law relating to the registration of deeds was originally passed as Act XVI of 1864; this was modified by subsequent Acts, and finally a new Act (III of 1877) repealed all former statutes. The district is under a Registrar, whose head-quarters are at Coimbatore, and who acts as Sub-Registrar for the head-quarter division, with fifteen Sub-Registrars. Till lately Sheristadars and Sub-Magistrates were usually the Sub-Registrars, but now in every office a special Sub-Registrar has been appointed, usually a B.A. or F.A. There is a Sub-Registrar at the head-quarters of every Tahsildar and Deputy Tahsildar.

The offices are often inconvenient, being located in side rooms or verandahs of the various public offices, themselves not always commodious. With the large balances now in hand, it is intended to provide good and safe accommodation for this important branch of administration; plans are under preparation, sites have been selected, and in one or two cases the offices have been built.

All registered documents are copied consecutively into the appropriate books, from which are compiled the all-important indexes, which enable transactions in given lands to be traced by means of the names

of the parties and of the village. There are, however, no field registers in which every transaction affecting a field is noted up against that field in such way that intending buyers or mortgagees can know the exact title to, or encumbrances on, a given field by a mere glance at the register; this could easily be effected in this district, as in others, since the survey field is a specific unit of area and revenue, and the printed registers of the new survey are available.

The following table shows the progress of registration from 1866-67 compared with the average presidency rates. The great increase from 1877-78 is the principal feature of this table; this, as shown by the fact that registrations are steadily increasing, is chiefly due to the enactment in Act III of 1877 rendering certain classes of document invalid unless registered (compulsorily registrable), and also giving precedence to a registered over a non-registered document even in the case of optionally registrable documents (*vide* especially table II *infra*). The registrations for 1881-82 are just three times those for 1875-76. Book I contains the transactions for immovable property; Book IV those for movables.

Years.	Book I. Immov- able prop- erty.	Book IV. Movable property.	Total.	Increase or decrease.		Presidency increase per cent.
				Number of registra- tions.	Rate per cent.	
1866-67	4,794	..	..	..
1867-68	4,039	+ 135	+ 2.7	8
1868-69	5,735	+ 806	+ 14	9
1869-70	5,301	+ 120	+ 2.1	12
1870-71	5,900	+ 59	+ .6	11
1871-72	5,733	- 178	- 3	4
1872-73	6,500	+ 808	+ 15	23
1873-74	7,029	+ 439	+ 7	9
1874-75	7,589	+ 560	+ 8	3
1875-76	8,245	+ 656	+ 9	11.5
1876-77	9,049	+ 1,039	+ 12	5.7
1877-78	12,538	+ 3,678	+ 38.4	15.2
1878-79	12,052	+ 94	+ 7	18.8
1879-80	15,735	+ 4,407	+ 31.02	..
1880-81	21,340	+ 4,872	+ 28	..
1881-82	23,813	+ 3,799	+ 11.2	..
1882-83	24,703	+ 1,003	+ 2.02	..

A further comparison is made in the next table, in which the figures are given quinquennially with average and percentage increase for each period.

Periods.	Total Book I.	Total Book IV.	Grand Total.	Average per year.			Total in- crease.	Average annual increase.	Increase per cent. per quinque- nium.
				Book I.	Book IV.	Total.			
1867-68 to 1871-72	20,567	1,680	22,147	5,813	316	5,829	..	..	..
1872-73 to 1876-77	37,734	1,003	38,737	7,547	201	7,748	10,590	2,118	37.6
1877-78 to 1881-82	87,208	3,131	90,320	17,442	624	18,066	51,692	10,318	138.1

The next table gives annual averages of registration, divided into compulsory and optional, in quinquennial periods from 1867-68 to 1882 :—

Periods.	Average annual registrations in Book I.		In Book IV, Optional.	Total optional registrations.	Ratio per cent. of optional to total registrations.	Remarks.
	Compulsory.	Optional.				
1867-68 to 1871-72 ..	4,802	512	316	828	15	In the third quinquennium, while compulsory registrations had not even doubled, optional registrations increased nearly tenfold.
1872-73 to 1876-77 ..	6,990	557	301	758	10	
1877-78 to 1881-82 ..	12,159	5,283	624	5,907	33	

The next statement shows in triennial periods the aggregate value of property transferred by registered documents :—

Years.	Book I.	Book IV.	Total.	Annual average.		
				Book I.	Book IV.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1867-68 to 1869-70 ..	63,47,729	16,40,806	79,88,535	21,15,910	5,45,953	26,62,863
1870-71 to 1872-73 ..	65,97,557	10,99,249	76,96,806	21,99,186	3,66,415	25,65,602
1873-74 to 1875-76 ..	84,24,176	15,18,780	99,42,956	28,08,060	5,09,243	33,17,303
1876-77 to 1878-79 ..	1,09,26,274	15,89,136	1,25,15,410	36,42,091	5,29,712	41,71,803
1879-80 to 1881-82 ..	1,60,01,903	16,98,892	1,77,00,795	56,33,568	5,66,297	62,00,265

The statement of this immense business, averaging for dealings in immovable property above 53 lakhs per annum from 1879 to 1881, is an important contribution towards solving the land value question. The business done in 1881-82 was nearly 67 lakhs, of which 55½ lakhs were in Book I. In 1882-83 the business under Book I was Rs. 55,89,423 in 24,765 transactions, of which 10,610 were sales and 11,400 were mortgages; 5,790 of the sales and 6,982 of the mortgages were of land worth above Rs. 100. (See "Economic condition.")

The next table gives the average value of instruments affecting immovable property. The steady decline is due to the fact that at first only important deeds were registered; gradually more ordinary ones, and finally since 1877 practically all. It is true, however, that since the famine dry lands have somewhat fallen in value, though they are now recovering. The two causes cannot be separated without a close scrutiny, as the new Act came into force when the famine was at its height (1877-78). But the gradual fall from 1879-80, when the famine had closed, shows that the former cause, viz., the registration of even petty documents, is the principal one, and it is to be noted that the prices of land were rising until the famine, while the average registration value was diminishing.

Year.	Average value.	Year.	Average value.	Year.	Average value.	Year.	Average value.
1867-68 ..	Rs. 403	1871-72 ..	Rs. 422	1876-76 ..	Rs. 367	1879-80 ..	Rs. 294
1868-69 ..	441	1872-73 ..	363	1876-77 ..	385	1880-81 ..	259
1869-70 ..	406	1873-74 ..	372	1877-78 ..	284	1881-82 ..	233
1870-71 ..	402	1874-75 ..	374	1878-79 ..	284	1882-83 ..	..

Documents impounded for want of proper stamp are shown in the next table.

Quinquennial periods.	Im- pounded.	Returned by the Collector as correctly stamped.	Declared to be insuffi- ciently stamped.		Otherwise disposed of.
			Penalty levied or ordered to be levied.	Penalty remitted.	
1872-73 to 1876-77 ..	111	20	61	28	..
1877-78 to 1881-82 ..	237	34	196	5	2

Hence for the last quinquennium only one document in 449 was wrongly stamped.

The next statement shows in triennial periods the registration in each Sub-Registrar's office; that of the Registrar and Sub-Registrar of Coimbatore are lumped together, the average of nine years for the District Registrar's office being under 25.

Office.	Triennial periods.				Remarks.
	1870-71 to 1872-73.	1873-74 to 1875-76.	1876-77 to 1878-79.	1879-80 to 1881-82.	
Coimbatore	3,740	4,407	4,658	12,832	* Abolished in 1874; re-es- tablished in 1881-82. † Abolished in 1876.
Mettupalaiyam ..	299	162	..	238	
Satyamangalam ..	837	1,135	1,519	3,253	
Kollegal	780	708	1,602	2,292	
Pollachi	824	1,552	3,826	6,221	
Anaimalai	437	278	†	..	
Perundurai	1,324	704	1,031	2,919	
Bharani	608	679	634	2,145	
Palladam	1,721	2,236	2,901	4,708	
Avanashi	994	1,037	1,394	2,366	
Karur	1,677	2,434	3,083	7,046	
Aravakurichi	552	560	1,079	1,933	
Udamalpet	2,695	3,032	4,894	6,400	
Dhārāpuram	1,139	1,227	1,945	3,358	
Kangyam	679	971	1,167	2,262	
Erode .. ..	..	2,301	2,489	5,544	
Total ..	18,216	22,863	35,113	64,547	

Each year shows a steady increase of work.

The next table shows the receipts, expenditure, and balance in hand at each office. The recent increase in expenditure is due partly to the

appointment of regular Sub-Registrars, and partly to the increased amount of commission upon increased receipts.

Office.	1876-77 to 1876-80.			1880-81.			1881-82.		
	Receipt.	Expenditure.	Balance.	Receipt.	Expenditure.	Balance.	Receipt.	Expenditure.	Balance.
Coimbatore Registrar ..	Rs. 8,306	Rs. 23,455	Rs. — 15,059	Rs. 6,770	Rs. 6,428	Rs. 1,348	Rs. 6,677	Rs. 5,732	Rs. 945
Coimbatore Sub-Registrar ..	26,385	13,351	13,034	..	..	..	..	..	..
Metturklayam do. ..	673	390	383	..	..	..	..	..	..
Sayamaugdam do. ..	7,467	3,036	3,841	1,622	925	697	308	120	188
Kollonel do. ..	5,244	2,554	2,690	796	670	228	1,787	1,112	675
Pollachi do. ..	12,247	6,074	6,223	3,221	1,633	1,588	1,043	704	349
Anaimalai do. ..	1,238	630	608	..	..	..	3,112	1,550	1,566
Perundurai do. ..	5,045	2,434	2,611	1,062	473	689	..	..	..
Ilavai do. ..	3,094	1,883	1,811	..	..	..	1,228	761	477
Palladam do. ..	12,526	6,433	6,093	912	416	497	..	680	287
Avanashi do. ..	6,135	3,090	3,045	2,018	1,171	877	2,102	1,174	629
Karur do. ..	15,694	8,115	7,483	1,431	804	326	1,122	768	324
Aravakurchi do. ..	4,840	2,113	2,227	3,138	1,062	1,576	3,012	1,759	1,863
Idanahpet do. ..	20,920	10,444	10,493	918	378	440	3,165	7,719	334
Chitrapuram do. ..	9,068	4,962	4,976	2,060	1,493	1,227	3,154	1,589	1,565
Kangayam do. ..	4,713	2,239	2,424	1,624	1,090	504	1,794	1,034	749
Erode do. ..	9,947	5,437	4,490	811	345	466	1,285	781	504
Total ..	1,54,025	97,180	57,345	28,770	17,447	11,329	51,702	19,063	11,931

PUBLIC WORKS.

The district belongs to the Fourth Circle, under a Superintending Engineer with head-quarters in Coimbatore, but whose superintendence extends to five other districts. The officer in immediate executive charge is the Executive Engineer, who, however, has charge also of another district the duties of which frequently require his absence from the district.

His subordinates are tabulated as follows :—

Superior officers.		Establishment of each of the superior officers.
Executive Engineer	{	1 Accountant, 5 Clerks, 2 Draughtsmen, 1 Storekeeper.
Assistant do.	..	1 Clerk (Rs. 20—30).
Do. do.	..	1 do. do.
Supervisor	..	1 do. (Rs. 15—20).
Do. ..	..	1 do. do.
Do. ..	..	1 do. do.
Taluk Overseer	..	1 do. do.
Do. ..	..	1 do. do.

Minor establishments consist of 6 messengers and 9 lascars.

The head-quarter office staff comprises 7 clerks from Rs. 30 to Rs. 200, 3 draughtsmen from Rs. 50 to 100, 4 messengers and 4 lascars.

Coimbatore is divided into two sub-divisions, viz. :—

Coimbatore Sub division—comprising (1) Coimbatore, (2) Pol-láhi, (3) Palladam, (4) Udamalpet, and (5) Dhárápúram taluks.

This division is in charge of an Assistant Engineer, who is assisted by a Supervisor and an Overseer.

Erode Sub-division—comprising (1) Erode, (2) Karúr, (3) Bhaváni, and (4) Satyamangalam taluks.

This is in charge of an Assistant Engineer, who is assisted by 2 Supervisors and an Overseer.

Kollegal taluk is at present abandoned by the Public Works Department.

The department has charge of all Government public buildings and public major irrigation works, the latter forming by far the more important charge (*cide* "Irrigation").

The district also belongs to the B Project Division, of which two officers with their establishments are now (1884) engaged in the district, surveying and estimating for new, and extensions of old, irrigation works.

Appended is a list of buildings under charge of the Public Works Department in 1884.

Coimbatore.

Collector's, Deputy Collector's, Press and Treasury Office ..	1
Taluk Cutcherry, Sub-jail, &c.	1
Sub-Magistrate's Cutcherry ..	2
Village Munsiff's Court ..	1
Superintending Engineer's Office	1
District and Munsiff's Court ..	1
Rest-house and Commissariat Store-room	2
Jail with Jailor's quarters ..	2
Police Offices, Stations, and Lines	13
Post Office and Postmaster's quarters	2

Palladam.

Taluk and Sub-Magistrate's Offices with Sub-jails ..	3
Deputy Collector's Cutcherry, occupied at present by Postal Department	1
Police Stations and Lines ..	7
Post Office	1
Overseer's Office	1

Palldohi.

Taluk and Sub-Magistrate's Offices	3
Police Station and Lines ..	4
School	1

Udumalpet.

Taluk Cutcherry and Sub-jail.	2
Village Munsiff's Court ..	1
Police Station and Lines ..	3
Overseer's Office	1
District Munsiff's Court ..	1
School-house	1

Karur.

Taluk and Sub-Magistrate's Offices	1
---	---

Post Office	5
Police Station and Lines ..	1
District Munsiff's Court ..	2
School-house	1

Dhârápuram.

Taluk and Sub-Magistrate's Offices	2
Police Station	5
Chattram	1

Kollegal.

Taluk Cutcherry	1
Police Station and Lines ..	7
District Munsiff's Court ..	1

Satyamangalam.

Taluk Cutcherry and Sub- Magistrate's Office	2
Police Station and Lines ..	11
Overseer's Office	1
School-house	1
Ancient Bungalow	1

Bhacani.

Taluk Cutcherry	1
Police Station and Lines ..	6
Hospital	1

Erode.

Sub-Collector's Cutcherry ..	1
Sub-Collector's Bungalow ..	1
Taluk and Sub-Magistrate's Offices	2
Engineer's Office	1
Rest-house	1
Police Assistant Superinten- dent's Bungalow	1
Police Station	1
Overseer's Office	1
District Munsiff's Court ..	1
Post Office	1

MEDICAL DEPARTMENT.

The Civil Surgeon is professional head of all medical and sanitary matters, reporting direct to the Surgeon-General and Sanitary Com-

missioner; he is also the district medical and sanitary adviser to the Collector, Local Fund Board, and Municipalities, and as such not only inspects the various dispensaries twice a year, but also examines the sanitation of both towns and villages; for this end his office has recently been increased and travelling allowances granted. During his absence from head-quarters the Assistant Surgeon, who is now permanently stationed there, takes up his duties including that of the jail. For details of dispensaries and sanitation, see "Local Funds" and "Municipalities."

METEOROLOGY.

An observatory is attached to the civil dispensary under the supervision of the Civil Surgeon and under immediate charge of a paid observer; it is periodically inspected from Madras (see "Climate, Rainfall").

POST OFFICE.

The post office in Haidar's time was, in addition to its legitimate duties, an agent of espionage, by which, as Wilks states, Haidar was able to learn the secrets even of private families, and no one was safe who was, or was suspected of being, wealthy. Subsequent to the British assumption it lost this peculiar importance, and became a mere agency for the receipt and transmission of letters by runners along a few chief lines; the Collector managed all local lines, which were called the district post. At present all lines in the district are imperial except one, viz., that from Satyamangalam to Talavadi, which is but nominally a district line. Under modern auspices, though no longer a police bureau, it is following on the track of its English exemplar, and has started money order offices, and, on 1st April 1882, savings banks, but is not yet an insurance, annuity, or stock-selling office. The headquarters of the local superintendent are at Coonoor. The establishment consists of a head office at Coimbatore with a Postmaster and seven clerks, costing Rs. 313 per month, and 24 sub-offices under Sub-Postmasters subordinate to the head office. The whole of this part of the department costs Rs. 897 per month. Seventy-one subsidiary boxes are placed in the chief villages of the district and served by postmen paid partly from imperial and partly from district post funds; there are also 13 village boxes.

There are 9 imperial post lines served by post runners whose stages are 5 or 6 miles, with an aggregate length of 192 miles, and a district post line of 36 miles; these connect important centres with one another or with the railways. It is to be noted that the district is served by two lines of rail with their travelling post offices. The monthly cost of the post lines is Rs. 319; there are 55 imperial and 8 district runners. Letters are distributed and collected by 45 imperial and 41 district postmen; there are also 5 mail peons.

The letters and parcels despatched during 1882 were 778,597 and received 956,353. In 1883 the number received rose to 1,068,282, comprising 722,352 letters, 90,454 newspapers and packets, 251,524 post-cards, and 3,952 parcels. The increase over 1882 is 11·7 per cent.

For localities of post offices, see Taluk Notices and map.

Money Order Department.—This department does considerable and increasing work: each post office is a money order office.

Years.			Issues in rupees.	Payments in rupees.
1880-81	..	..	1,30,940	1,19,407
1881-82	..	..	1,81,122	1,92,563
1882-83	..	..	2,34,811	2,03,718

Savings Banks.—On the 1st April 1882 a savings bank was opened at each office; the amounts received and withdrawn are as follow:—

Year.			Deposited.	Withdrawn.
			Rs.	Rs.
1882-83	..	..	10,263	4,170

The institution is in its infancy, so that its dealings are but trifling, nor has it yet reached the people.

Treasury Money Order Offices.—From 1867 there was a money order office at each treasury, but these are now closed to the public.

Treasury Savings Banks.—Each treasury since 1834 has had a savings bank attached to it. These are not very popular and are chiefly used for deposits of security money by public officers and contractors.

SALT DEPARTMENT.

Not being a maritime district, there is no sea-salt manufacture. Until lately the district has been supplied with salt in the following ways: (1) by the Madras Railway, (2) by the South Indian Railway, (3) by road, (4) by the manufacture of earth salt. The imports by rail will be found in the appendix on "Trade."

The third source of salt is by cart to the southern taluks from Dindigul, and by Koravars on pack-bullocks to Kollegál, from Mercánam through Salem and Ámbádi. Probably Kollegál will now be supplied by the Mysore Railway, which has a station within thirty miles of Kollegál. The amount supplied cannot be ascertained.

The fourth source is immemorial in this district, in which alkaline earths abound. Earth-salt is a by-product of the saltpetre manufacture, but was also manufactured for its own sake in vast quantities. Writing about thirty years ago a former Collector very roughly estimated the produce at 5,000 candies of 500 lb. each, and remarked that it was an article of necessity to the ryots, not only for their own consumption, but because it was used for their cattle. Since the introduction of Madras

Act I of 1882 and the rigid scrutiny of the newly-organized Salt Department, earth-salt making has almost become a thing of the past.

The question of the salt supply for cattle in an inland district like Coimbatore is one of the greatest importance, for though a certain amount is supplied in the often brackish water, this is insufficient, and the testimony of a former officer regarding the use of earth-salt is noteworthy.

Sea salt is supplied by private trade only, and not through Government depôts.

A list of the district establishment will be found in the Appendix.

ECCLESIASTICAL.

A Government Chaplain has of late years been posted to Coimbatore, mainly through the exertions of the European population, who built a beautiful church (All Souls') at head-quarters. Attached to this congregation is a school for Eurasian boys and girls, and a Dorcas Society, managed by some of the ladies of the congregation.

Pōdanūr is the head-quarters of the Madras Railway Chaplain, where he has a considerable number of railway officials under his care. His parish is the whole of the south-west railway line, and about once in two months he is able to hold a morning service at the railway station in Erode, which otherwise has to look after itself.

The district is also occasionally visited by the new Anglo-Indian Evangelization Society's Agent.

At Coimbatore the Union Church has a considerable congregation, chiefly of Eurasians. This is entirely the work of Messrs. Stanes of Coimbatore and Coonoor.

LOCAL FUNDS.*

The district is comprised in a single circle, worked by a Board of 27 members (6 official and 21 non-official), of which the Collector is *ex-officio* president.

The duties of the Board are to make provision for and supervise (1) the roads and various Local Fund buildings (Grant I), (2) elementary education (Grant II), (3) local medical services, vaccination, sanitation and other public conveniences (Grant III), (4) miscellaneous duties, office, &c. (Grant IV).

It will be seen that much of the administrative work of the district is done by the Circle Board from district funds, and that from the nature of the work those funds are almost entirely spent within the district and therefore impose a minimum burden on its industry.

* This section was written before the introduction of Act V of 1884; the sources of income, the objects and mode of expenditure, and the duties of the District Board are the same as before, the chief changes being in the method of administration. A house-tax in selected villages has, however, been added as a permissible source of income.

The items from which its income is derived are (1) land-cess at one anna per rupee of land revenue, (2) tolls on roads and bridges, (3) surplus Pound Fund, (4) ferry rents, (5) fisheries, (6) fees in schools, (7) market rents, (8) endowments, (9) miscellaneous. Provincial grants were made until 1879-80, when they finally ceased. These receipts are distributed among several funds, viz.: (1) Road Fund, comprised of two-thirds of the land-cess collections, the proceeds of tolls, contributions from other circles and municipalities for roads, and additional allotments from the General Fund on the sanction of Government; (2) Endowment Fund, being the receipts from funded or landed property belonging to hospitals, chattrams, &c., and market rents; (3) General Fund, comprising one-third of the land-cess and all miscellaneous receipts the proceeds of which are not devoted to road and endowment purposes; from this fund are paid the expenses of elementary education, medical services, vaccination, sanitation, &c.

In Appendix XVII will be found a series of statements giving details of receipts and expenditure since 1871. The following is an abstract:—

Years.				Receipts.	Expenditure.
				RS.	RS.
1871-72	..	..	..	1,77,050	1,91,831
1872-73	..	..	..	2,77,979	2,46,237
1873-74	..	..	..	2,44,222	3,07,353
1874-75	..	..	..	2,57,102	2,57,879
1875-76	..	..	..	2,68,971	2,27,665
1876-77	..	..	..	2,05,699	2,40,903
1877-78	..	..	..	1,57,844	1,36,776
1878-79	..	..	..	3,38,056	93,371
1879-80	..	..	..	2,58,007	2,00,688
1880-81	..	..	..	2,72,934	2,28,363
1881-82	..	..	..	2,34,067	3,02,562
1882-83	..	..	..	3,08,510	3,68,510
Average of 12 years				2,55,156	2,28,622

Practically the income is received and expended within the district. The expenditure is divided between four "grants" or classes; the following abstract shows the expenditure on each grant since 1871:—

—	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.
	RS.	RS.	RS.	RS.	RS.	RS.
<i>Grant I.—Communications.</i>	1,67,795	2,12,113	2,59,564	2,11,887	1,81,366	1,79,141
<i>Grant II.—Education.</i>	12,885	10,750	21,151	16,543	14,700	16,276
<i>Grant III.—Medical services, sanitation, and other public conveniences.</i>	9,808	13,643	13,174	26,264	28,228	42,333
<i>Grant IV.—Miscellaneous.</i>	1,243	3,732	3,464	3,185	2,781	3,153
Total ..	1,91,831	2,46,237	3,07,353	2,57,879	227,665	2,40,903

—	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	Average of 12 years.
<i>Grant I.—Communi- cations.</i>	RS. 79,939	RS. 32,420	RS. 1,42,688	RS. 1,55,395	RS. 1,69,328	RS. 2,20,823	RS. 1,68,626
<i>Grant II.—Education.</i>	10,504	5,188	7,320	12,910	17,916	20,489	14,404
<i>Grant III.—Medical services, sanitation, and other public con- veniences.</i>	43,355	50,517	46,242	54,538	1,09,850	60,097	42,087
<i>Grant IV.—Miscella- neous.</i>	2,977	2,230	2,237	5,520	5,408	7,101	3,595
Total ..	1,36,775	95,371	2,00,688	2,28,363	3,02,502	3,08,610	2,28,622

Grant I, Communications.—Two hundred and eighty-six miles of new road were made during the eleven years at a cost of Rs. 2,76,496 ; approximately Rs. 1,000 per mile. This mileage was rather complete reconstruction than the making of new roads, for in 1871 the circle was everywhere traversed by roads ranging from mere tracks to first-class metalled highways. In addition to this mileage several hundred miles of itteri (village roads) were, during the famine, converted into roads of fair character, most of which are in regular use. On an average 1,070 miles of road were kept in repair at various rates averaging Rs. 93 per mile; excluding the famine years, 1,200 is the average. In 1882-83, 43 miles were reconstructed at a cost of Rs. 33,818, and 1,055 miles repaired at a cost of Rs. 1,02,086. The total mileage of made-road either metalled or gravelled is 1,543 exclusive of a considerable length of famine roads which do not call for present expenditure.

Avenues are now mostly looked after by the road establishment, but till 1882 they were in charge of the revenue officers; the avenue allotment for 1882-83 was Rs. 2,150. They are generally in very poor condition; the old trees were only ichi (*Ficus tsiela*), and these are dying off. Now that avenues must be made with expensive hired labor, it is very costly to rear them in hard soil with the scanty rainfall of the district. On roads traversing wet lands cocoanut avenues are being successfully formed; these will pay well.

In 1881 the Collector (Mr. Wilson) proposed to the Local Fund Board to get the various ryots whose lands border the roads, to plant avenue trees on condition of enjoying the usufruct of the trees; the plan was however not tried. Probably a bonus of four or eight annas per fruit tree fairly established, would stimulate this useful operation; this plan is found to be successful in America.

In addition to the expenditure on roads, various civil buildings were erected or kept in repair, including the building of two dispensaries, one school, one public bungalow and five chattrams.

It will be seen that Grant I absorbs the bulk of the funds at disposal; at the acquisition of the district in 1800 there were no roads, but only tracks, and consequently carts were entirely unknown, the

whole traffic having been conducted on pack-bullocks and ponies, and occasionally by basket boat on the rivers. From that time onward the district has been gradually supplied with good roads, which afford the ryot an easy means of exchanging his produce at the various markets.

Until 1879-80 the Imperial Public Works Department had charge of the roads, and charged 25 per cent. on the outlay for supervision, so that in 1873-74, when over two lakhs were spent on roads, the entire cost of supervision was Rs. 50,117. Since 1879-80 this plan has been discontinued, and a special Local Fund engineering establishment has been entertained, which appears to be an economy. The sole duty of the present staff is that of constructing and repairing all Local Fund buildings and roads.

On the whole, the roads may be said to be good, though heavy rain tries all but the best metalled ones; the hardness of the gravel and the scanty rainfall permit of easy draught almost throughout the year.

The following is the Local Fund Public Works superior establishment: the Local Fund Engineer has general charge of the whole circle and immediate charge of the Coimbatore taluk; he is assisted by one overseer and two sub-overseers. Pollachi, Udaumalpet, and Palladam are under a supervisor assisted by one overseer and three sub-overseers. Satyamangalam, Bhavani and Kollegal are under a supervisor with two overseers and three sub-overseers. Erode, Karur and Dharmaparam are under a third supervisor, who has one overseer and two sub-overseers. The Local Fund Engineer's pay is Rs. 400 with Rs. 4 per diem for travelling; a supervisor's Rs. 90 to 110 with Rs. 40 per month travelling allowance; an overseer's Rs. 60 to 80 with Rs. 25 travelling allowance; and a sub-overseer's Rs. 20 to 50; he is allowed nothing for travelling as his range is usually small.

Grant II, Education.^{*}—Table No. XVII-D in the Appendix is worth studying; in the early years of the circle the amount allotted for expenditure was about equal to that theoretically due to this grant, but it was never expended, from a third to a half being regularly transferred to the Road Fund. Until 1876-77 there was, however, an improving expenditure under results grants, when the famine intervened, with the consequence shown in the figures. The rules for earning grants were also made stricter in 1879, in which year the grant earned was only Rs. 1,746 as against Rs. 12,781 in 1876-77. Schools are now recovering, and the grants earned are rapidly increasing. Since 1876-77 the educational budget is arranged with reference to probable demands, not upon probable receipts.

Grant III, Medical Services, &c.—Next to roads, the provision of dispensaries is that most appreciated by the circle population. The

^{*} For a history of education see the section on that subject, and for its results and statistics see the same section, the section on "Population" *supra*, and Appendices XVII and XIX.

tables in Appendix No. XVII give ample details which will repay study. Up to 1850 there was nothing of the sort, and the Zillah Surgeon was the only representative of medical science. In that year the Coimbatore hospital was founded, and in 1858 that of Pollachi; between 1861 and 1870 the number treated averaged 10,075 out and 463 in patients. From the starting of the Local Fund Board in 1871 there has been a steady increase in hospitals, one new one having been established every year, so that in 1882 there were, including the municipal hospitals at Coimbatore, Erode, and Karúr, 11 hospitals, at which were treated 67,322 out and 1,571 in patients; of these, 40,694 and 858 respectively were treated at Local Fund dispensaries. They are situated usually at taluk head-quarters, which, except in Dhárápúram, Udumalpet, and Kollegal, are not in any way towns; for this reason, and because of their recent establishment, the number treated is small in comparison with that of municipal dispensary patients; every year, however, the number is increasing. In-patients are not so much sought as out-patients, since there is no medical school attached to any of the hospitals, which, though there is accommodation at each for a few in-patients, are rather dispensaries than hospitals. There are good and permanent buildings at all except Bhaváni, Mettupálaiyam, Palladam and Satyamangalam, where the accommodation is poor and but temporary. Minor dispensaries, that is, small institutions for out-patients only under charge of Civil Hospital Assistants and accommodated each in a small house, are now being started, a beginning having been made at Aravakurichi in 1883. The hospital at Pollachi has a funded endowment of Rs. 21,000, provided by public subscription, and is a most useful institution; it may be said that much of its popularity is due to the attention and skill of two officers, viz., M.R.Ry. Kanagaráya Pillai, Native Surgeon, and M.R.Ry. Munisami Pillai, Assistant Surgeon (both Native Christians), of whom the former began the work and the latter continued it till his transfer in 1883. A fourth of the pay of the Local Fund medical officers is paid by Government for the free treatment of all Government servants, and the remainder by Local Funds. Almost all officers are now of the Civil Apothecary grade.

Medicines are practically given gratis, as will be seen by table XVII-K; only quinine is sold. Efforts are now being successfully made to reduce the cost of medicines by the substitution of locally-obtained drugs. The increase in expenditure on dispensaries requires the most earnest attention to this matter, as funds are very limited. Table No. XVII-K shows that the cost of each patient has gradually fallen to Annas 5-10 and the cost of medicines from Annas 2 (average 1860-71) to Annas 1-1 in 1880; this, however, is chiefly due to the great increase of patients suffering under petty ailments. General expenditure has risen from Rs. 1,088 in 1871 to Rs. 12,473 in 1881-82. Death-rates among in-patients will be found in table XVII-K; it is to be noted that patients in epidemic cases seldom come; in other diseases,

unless very poor, they are unwilling to come as in-patients until, perhaps, it is very late.

Proposals are now being made for working hospitals on the cottage plan, cheap cottages for caste patients being erected apart from the dispensary building; this improvement for in-patients (*cf.* Dindigul) can hardly be overestimated, as it will bring many serious cases under scientific and skillful treatment.

Surgical operations are steadily on the increase; see table XVII-K. Table No. XVII-L gives the nationality of patients.

Vaccination.—Either inoculation or vaccination has been practised in this district ever since its acquisition in 1800; in the oldest reports of Mr. Collector Garrow, the Surgeon is spoken of as practising and inculcating "inoculation," and Père DuBois himself helped to spread the practice.* In 1805 vaccination was regularly taken up, a Superintendent being appointed, allowances granted to Zillah Surgeons, and vaccinators employed. A good deal was done in this way, but it was not for some years after that vaccination was systematized, and parties of vaccinators were sent about the district, vaccinating in villages group by group. This plan had certain advantages in that there was the moral effect of a large party, supervised immediately by a European chief, while fraud on the part of the vaccinators was almost impossible. Revenue officers could also readily give the aid of their presence and persuasive powers. It was, however, abandoned in 1871 for the present system, by which isolated vaccinators are appointed to distinct areas, generally corresponding with the divisions of revenue inspectors, viz., three to a taluk; these areas they are supposed to traverse village by village, their work being checked by two native deputy inspectors and by the annual tours of the inspector. This plan has its disadvantages, chiefly in the difficulty of supervision and check; there has been considerable negligence, as also several cases of detected frauds. Recently the plan has been systematized; each separate division has been broken up into a number of petty circles, of which the area is found by experiment; to these are given consecutive numbers, and the vaccinator has to traverse these circles in numerical order, spending a fortnight or three weeks in each; this provides that every village and hamlet shall be visited each year and allows of ready check. Each vaccinator not only maintains his nominal register, but leaves a copy of the same in each village. Various other rules provide for the convenience of the

* It was at first strongly objected to, and Père DuBois reported in 1804 that the Hindus would not hear of vaccination on the ground, worthy of a certain class in Christian countries in the matter of epidemics, that small-pox was a manifestation of its special patron deity (Mariammāl), and that she would be deeply offended if her manifestations were impiously resisted. He considered, however, that the benefits of vaccination would probably induce an opinion that Mariammāl herself had deigned to choose this mild form of small-pox, and that it was therefore not impious, but the contrary, to assist in its spread. There has for many years been no difficulty in vaccination in the district save that arising from the apathy of people and even of officials.

vaccinator and people. Batta is given to the mothers of lymph subjects, and a small allowance is granted to tahsildars to provide sweetmeats for the children; arm-to-arm vaccination is mostly in vogue. All vaccinators are expected to do 100 cases per month, probationers 60. For every case in excess, one anna is paid to the vaccinator; this is seldom earned unless revenue officers assist, and the vaccinators are stimulated by direct encouragement or censure. Revenue officers are expected to co-operate in every possible way (*vide* memorandum in the District Gazette of 1st October 1881).

In 1883 there were 2 deputy inspectors each on Rs. 70 per mensem, 10 vaccinators of the first class each on Rs. 15, 10 of the second class each on Rs. 10, and 5 probationers each on Rs. 7. The total cost for the year 1882-83 was Rs. 8,135. The staff has recently (1885) been strengthened.

Table XVII-M (Appendix) shows the number, cost, &c., of cases from 1870.

Thousands of children remain unprotected every year; in spite of vaccination, small-pox is very considerably prevalent; the figures given in the "epidemic" table are untrustworthy, as shown, not merely by experience, but by the large proportion of boys under fifteen who are strongly marked with small-pox.⁹ It has been recently (April 1884) proposed largely to reinforce the staff; this, with good supervision will do much good. Adult, or re-vaccination after puberty, is very rare, and may be said to be unattempted.

Sanitation.—The petty funds at disposal, and the enormous requirements of the district in every direction, prevent the devotion of much money to sanitary objects.¹⁰ The sum available is 25 per cent. of one-third of the land cess; this averages from Rs. 13,000 to 14,000. To

⁹ There is no attempt to keep up the "vaccinia" by cultivation in cows, and tube lymph is but little used; from recent cases (1882-83) where actually vaccinated children have not only been attacked in considerable numbers, but have died under the disease, it may be suspected that the continual arm-to-arm vaccination may have in some cases unduly humanised the lymph. Much advantage would seem to attend a systematic district cultivation of vaccinia matter in calves, and the extension of vaccination from the animal.

¹⁰ While this is to be regretted, it must be remembered that it is impossible for the existing or for a tenfold staff to supervise the daily work of establishments spread over 1,454 villages and 8,400 square miles, and that money would mostly be merely wasted, the main village being nicely swept and garnished on the approach of an officer, and at other times left in its normal condition, while the paid staff took its ease or worked in the fields. There is no village staff, as is often supposed, whose ancestral and customary duties are those of sanitation; on the contrary, rural Pariahs are often mulcted by their caste men in heavy fines if they take up latrine and such like work, while the village taluk so-called, though Pariahs, are Government servants whose duties are connected solely with revenue and police matters. Even if money were available it would, at present, be of little use; education and knowledge must first be raised far above their present level before money can be spent, with much hope of real usefulness, upon village drains and conservancy. Simple arithmetic applied to area, population, rupees, and supervising officers, will show *part of the difficulty* of the problem; if it be difficult in England to clean and keep clean a village of 1,000 people with the aid of plenty of money, intelligence, and individual

this is added a portion of the balance or general savings, if any; the total average amount available during the past five years has been only Rs. 16,000.

The following table, which of course omits municipal figures, shows the area and numbers which it is desired to sanitate with this sum; 6,400 square miles equal in area some four or five English counties, *e.g.*, Norfolk, Suffolk, Essex, and Cambridge.

Area in square miles, including hill tracts and forests.	Number of villages.	Number of hamlets.	Houses.	Population.	Rupces available.	Rupces per square mile.	Rupces per village.	Rupces per 100 houses.	Rupces per 1,000 persons.
6,400	1,454	2,504	385,500	1,509,000	16,000	Rs. A. 2 8	11	Rs. A. 4 1	10

The amount spent has gradually risen from Rs. 1,078 in 1871 to 20,968 for 1882-83. Appendix XVII-M. shows the sanitary expenditure for 1871 to 1883. The budget allotment for 1884-85 is as follows:—

	Rs.
Improvement of water-supply	2,000
Do. village sites	500
Scavenging establishment	7,740
Other sanitary outlay	2,500
Total ..	12,740

Establishments consist of scavengers and latrine men, supervised in villages by monigars, and in towns by a mistry; water-supply is improved by the occasional digging of a draw-well or the cleansing or repair of existing wells; the improvement to village sites is usually the clearance of prickly pear, the shelter afforded by which to human beings and animals causes the vicinity of groups of houses to be in a

co-operation, how much more is it difficult, nay impossible, to carry out sanitary improvements in a vast and populous area where there is neither money, education, nor even the germ of the sanitary idea to co-operate with the almost solitary sanitary officer. It is sanitary teaching and the birth and development of the sanitary idea, so that each man may strive to keep his own premises and neighbourhood clean, that are first required, and it will take long years to develop a sanitary conscience in the non-receptive ryot. A new departure is now (1885) to be made in local self-government, which may awaken the sanitary idea; small funds will also, in that case, be available, by local self-taxation, under the permissible house tax. There is much to be hoped for from a development of agriculture, which will dispose of the question of excreta, while the accretion of wealth will itself bring those comforts and ideas which will promote a sanitary condition of domestic life, and, with the aid of education, gradually develop a class for service on the village municipal boards. Nevertheless, in an habitually dry country like Coimbatore there is less anxiety than in others, and neither the disease table (*vide* "Diseases") nor the epidemic reports warrant a belief in any special unhealthiness of the district; the fevers are mostly low forms of an aguish type common in the damp cold misty months of November to February. Since 1810 there is nothing on record to suggest a development of the ordinary mild malarial type into an epidemic continued fever, as in the extraordinary outbreak of that year.

high degree offensive.¹¹ A good deal is usually spent in sanitary precautions at the various fairs and festivals (*vide* Appendix XVII-M).

Public bungalows for travellers are fairly numerous and good; they number twenty-three and are entered by taluks in the appendix. In 1882-83 they cost Rs. 576 to keep up, and returned Rs. 417 by fees from travellers. The fee is eight annas per day for a single person and twelve annas for a married couple.

Chattrams are fifty-three in number; see appendix. No fee is charged for their use, except only that European travellers using the rooms set apart for them in the chattrama marked E. pay as for bungalows. The expenditure averages about Rs. 3,200 per annum.

Markets are numerous; they are all weekly and have existed in many cases from time immemorial. They are held at certain villages, and are known either by the name of the village, or locally by the day of the week on which they are held. In all the principal markets small fees are collected at the rates of six pies per cart-load, three pies per pack bullock or pony, one pie per cow, bullock, buffalo, sheep, or goat brought for sale, and one pie per head-load. The collection of these fees is rented out by auction to the highest bidders, and from the proceeds the markets are fenced, provided with large tiled sheds, shade trees, wells and cattle troughs, a drinking water establishment, and sweepers who clean up the market, water the trees, &c. In the appendix is a list of all markets in the district with full details as to place, day, rent, accommodation and so forth.

These rents are treated as endowments, and are ordered to be devoted entirely to the improvement of the markets, but it is permissible to spend the assets in groups, so that small markets may benefit by the surplus of the large ones. It is not, however, at present allowable to spend any of the funds in the repair or improvement of the roads leading to the markets, though the village lanes are often very hazardous for laden carts, and improvement in the feeders, though very desirable, cannot be carried out without funds.

The market system is now (March 1884) being revised in the interests of the public.

Grant IV, "Miscellaneous," includes the cost of the various establishments.

¹¹ Except in certain crowded centres where supervision is possible, and in places and seasons of fairs and festivals, it is probably in this direction; and in that of digging draw-wells, that money can be most usefully spent. Mr. Robertson has justly remarked, in his Agricultural Report, on the noxious odour from villages, due largely to the prickly-pear jungles with their decaying and putrefying nuisances, both animal and vegetable, and the odour is but a symptom of the hidden mischief. The substitution of draw-wells in a cleansed soil, for the dirty step-wells which are the recipients of hosts of *detestable* either direct from the persons descending into them, or by percolation through a foul soil in the village site, would well repay time, money, and trouble, in increased safety to life either from disease or drowning.

SPECIAL AND LOCAL FUNDS.

These are the Pound Fund, Irrigation Cess Fund, and Ferry Fund. The former Jungle Conservancy Fund is now amalgamated with Forests, and that of the Public Bangalows with Local Funds.

The appendix gives the receipts and charges of the Pound Fund; one half of the surplus is credited to the Government Farm at Saidápet and the other half to the Local Funds.

The Irrigation Cess Fund originated in a scheme proposed by the Collector in 1864 and 1865 and sanctioned by Government in G.O., No. 2810, dated 16th November 1865. It is levied only in the Erode and Satyamangalam taluks, at As. 6-6 in Satyamangalam and in Erode at As. 3-0 per acre of single, and As. 6-7 per acre of double crop land. The proceeds are applied to maintaining the water establishment, and to the construction of a temporary dam over the Kodiveri anicut when water is scanty.

For "Ferries," with the receipts for a series of years, see "Communications."

MUNICIPALITIES.

There are three municipal towns, Coimbatore, Erode and Karúr. The duties of the Commission are managed by a Board in each town; the Chairman is selected by the Councillors who, in Coimbatore, are in part elected by the burgesses, while in Erode and Karúr they are wholly appointed by Government. These towns were erected into Municipalities in 1864 and 1874, respectively. Meetings are usually held twice a month. The sources of income are house tax, tolls, fees in markets and slaughter-houses, taxes on vehicles and animals, school fees, land cess, Local Fund contributions, and miscellaneous items. The town professional tax is not levied in any of the Municipalities. The Commissioners collect the imperial license tax and pay it over to the Government treasury, receiving a commission of 5 per cent. For particulars of collections for five years see Appendix No. 20. The following table gives useful information; the license tax receipts have been excluded throughout.

Name.	Population.	Houses.	Persons per house.	Taxation, 1882-83.							Incidence of actual taxation per person.	
				House tax.		Tolls.		Miscellaneous in- cluding markets, school fees, Local Fund hospital, &c.	Total.	Including tolls.	Excluding tolls.	
				Per cent. or rental.	Amount.	Rate.	Amount.					
					Rs.	Puñ.	Rs.	Rs.	Rs.	Rs. A. P.	Rs. A. P.	
Coimbatore.	28,867	5,677	6-8	7½	10,559		10,023	21,226	41,808	0 10 5	0 5 4	
Erode ..	9,864	1,885	5	0	3,652		2,150	5,483	11,215	0 10 3	0 7 10	
Karúr ..	9,205	1,752	5-5	5	2,467		5,075	4,430	12,978	0 11 4	0 6 9	

The incidence of taxation for the presidency is As. 11-9 and As. 8-3, respectively. The house tax is levied at the rates noted, the rentals being estimated by experience in most cases from the nature of the house, as houses are usually occupied by their owners. The objects of municipal expenditure are chiefly roads, education, medical relief, and sanitation. The expenditure for 1882-83, which was an ordinary year, was as follows:—

Town.	Public works.					Education.
	Roads.	Drainage.	Water-supply.	Miscellaneous.	Total.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Coimbatore	3,878	873	72	1,742	6,563	2,557
Erode	1,118	..	126	95	1,339	1,861
Karār	1,201	34	25	106	1,366	1,376
Town.	Medical relief.	Vaccination.	Conservancy.	Lighting.	Miscellaneous.	Grand Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Coimbatore	8,191	287	9,171	1,070	14,235	39,074
Erode	1,817	148	3,836	600	578	11,667
Karār	2,034	235	2,265	582	1,735	9,533

The license tax payment to Government is excluded.

Roads are mostly kept in good order. The expenditure on drainage is simply in the excavation of earth side drains and the removal of foul matter from the elongated open cess-pools called masonry drains. There is no such thing as a system of drainage or of sewers, whether masonry or pipe; surface excavations, occasionally lined with masonry, whether rough stone, hewn stone, or brick and mortar, and of no particular size, fall, or shape, are all that are at present found. Clearance is effected by hand. It is absolutely impossible to find money at present for systematic drainage; this and water-supply will follow when the towns are otherwise in good order, and when added wealth will render loans possible upon the security of surplus rates. The mere dribblets now available, if at all, are useless in such matters. Similarly in the case of water-supply; this at present is little more than is found in decent villages, except that important drinking wells and tanks are conserved and kept clean. There is no pipe supply as yet; this will be provided with drains.

Buildings include markets, which produce an income in all three towns, but especially in Erode.

Education is now almost entirely under municipal control; except the Coimbatore College and private institutions, all education up to that of the middle schools is paid for and supervised by the Commissioners, the receipts being also credited to their funds. Until 1883

elementary education alone was under their control, but in that year the middle schools were also transferred. The system is partly that of direct control by the establishment of municipal schools, partly indirect by inspecting and providing grants-in-aid for private schools. In Erode and Karúr the municipal schools being well taught and ordered, are ousting the ordinary private schools.

Hospitals are very popular institutions; the Local Fund Board contribute to their upkeep in consideration of the treatment of country patients (*vide* Local Funds, *sub* *roc.* Hospitals, and Appendix No. XVII-F).

Vaccination is worked by special vaccinators under the inspection of the deputy inspectors (see Local Funds, *sub* *roc.* Vaccination).

The registration of births and deaths is also provided for by the Commissioners, and is especially well carried on in Karúr (*vide* section on Vital Statistics).

Conservancy is almost confined to cleaning the streets, lanes, and dust-bins of the masses of rubbish, the removal of the foul matter in the open drains, and the cleaning of the latrines. In Coimbatore, the system of burning the rubbish and using the ash to deodorize the night-soil has been adopted, and the poudrette is now being made upon an improved plan. In Erode the rubbish is not burnt, but has hitherto been used to fill up hollows, and has been removed by the market gardeners. In Karúr, which is surrounded with wet land, the Commissioners have bought land for the erection of cinerators and night-soil depôts after the Coimbatore plan.

Private conservancy has just been started, certain householders agreeing to pay a small monthly fee for the removal of all rubbish, night-soil, &c., from their backyards. Lighting is confined to a moderate illumination of the streets and chief roads by kerosene lamps; this expenditure of funds is very popular.

The police are not now (1888) paid for by the Commissioners as in several previous years.

For other details, see Education and Taluk Notices.

ABKÁRI.

The people of this district have always been addicted to the use of intoxicating liquors, so much so that Tipú ordered that all liquor shops should be abolished and toddy-producing trees cut down. The policy of the British Government has been to combine revenue considerations with a primary regard for morality by heavily taxing the consumption of a detrimental luxury which could not be entirely suppressed, and is summed up in the phrase "the maximum of revenue with the minimum of consumption." The privilege of sale of country liquors was from the commencement of the century treated as a monopoly and let to farmers. Regulation I of 1808 sanctioned an alternative mode, viz., that of licensing out-stills, the system adopted in Bengal; but it was

not introduced into this district, as, in the opinion of the then Revenue Board, the interests of public order, morality and revenue were better served by entrusting the liquor supply of the country to men of respectability than to numerous petty dealers whose proceedings could not be carefully watched. This regulation did not contain any provisions for regulating the sale of toddy, but the right of sale of this liquor continued, nevertheless, to be farmed out along with country spirits. Regulation I of 1820 rescinded Regulation I of 1808, and provided rules for the sale of toddy; and was in its turn replaced by Madras Acts III of 1864 and V of 1879, which are still in force.

The abkári revenue is derived (1) from the tax on arrack, (2) from the tax on toddy, and (3) from fees levied on licenses for the sale of European liquors and country-brewed beer.

Arrack.—Until 1875 the arrack and toddy farms were leased out conjointly, usually by taluks, for triennial periods. From 1859-60 to 1869-70, however, the whole district was leased out in one farm to induce large capitalists to take up the business, but, as the plan did not answer, the taluk farms were reverted to at the end of that period. Until 1850 the selection of renters was made on a consideration of tenders received and subsequently of bids made at open auctions. The renter paid a fixed rent and could sell any quantity of liquor or further the sale of one kind of liquor at the expense of another, *e.g.*, arrack at the expense of toddy. The only restriction imposed on him was that he should not sell below certain minimum rates fixed by the Board, but even this was practically inoperative, as the minimum rates were fixed without any reference to the strengths of liquor sold. The privilege of sub-renting almost every shop was availed of by the renters, and practically every petty shopkeeper had a still. Under this system Government had no means of gauging the consumption of liquors, of regulating the taxation, and controlling the traffic so as to secure the object aimed at, *viz.*, "the maximum revenue with the minimum of consumption." The farming system had accordingly in 1875-76 to give way to what was called the "improved excise system." Under this system the exclusive privilege of manufacture and sale of country spirits for the whole district was assigned to a contractor selected on tenders after public notification. Distillation was permitted only at the head-quarters of the district, at which sufficient guard and gauging establishments were maintained at the contractor's expense. The revenue was taken in the shape of an excise duty on each gallon issued at rates defined with reference to strength, and to guard against the contractor giving his attention only to the easily-managed portions of his farm, neglecting the outlying parts, it was stipulated that he should guarantee a minimum revenue. In addition to the duty leviable at the distillery, a surcharge of duty was made on liquor sold in shops within the limits of certain towns, where the consumption of liquor is high and the drinking classes can afford to pay a higher duty

than the rural population. The contractors were bound to keep accounts of receipts and disbursements and of manufacture and issue of liquors to see that a sufficient number of hydrometers were supplied to the shops for testing the strength sold so as to check dilution, to sell liquor only at the prescribed strengths, and at prices between certain maximum and minimum limits, to use proper measures, and allow inspection of premises by officers of Government. The excise duty was at first fixed at Rs. 1-12-0 and subsequently raised to Rs. 2. The contractor was expected to maintain the necessary establishment for the detection and suppression of illicit traffic in liquor. The toddy farms were separated from those of arrack, as it was found that the tendency was for contractors to extend the sale of arrack at the expense of toddy, which is considered the more wholesome beverage.

The following table shows, in gallons, the consumption of arrack since 1875, on the year in which the excise system was introduced:—

Strength	Fiscal						First nine months of Fiscal 1291.	Official year.		
	1286.	1286.	1287.	1288.	1289.	1290.		1881-82.	1882-83.	1883-84.
20° under-proof.	17,044	32,312	27,061	—	—	—	—	—	—	—
30° under-proof.	66,063	36,747	30,541	60,751	54,968	52,252	47,470	39,275	68,752	67,096

The great falling off in the consumption in the years 1876 and 1877 was due to the effects of the famine; the subsequent years show a partial recovery. The increase in the excise duty levied, and the heavy charges incidental to centralized manufacture tended also to enhance the prices of liquor and decrease consumption. This, of course, would not have been a regrettable result, if unaccompanied by an increase in illicit traffic, but on this question there are no data for forming an accurate judgment, as Government did not till very lately maintain any special establishments for the detection and prevention of illicit practices, but depended on the contractor doing the needful in this direction to protect his own interest. Nine years' actual experience showed that the working of the "improved excise system" was not in all respects satisfactory, principally by reason of the too great size of the farms for men without local experience, undue economy in management and insufficient exploitation of outlying tracts. The minimum revenue guaranteed was intended to check the tendency to work only the easier areas, but as only large capitalists could take up the farm and give the necessary security, the competition for the farms was not effective, and the minimum revenue was kept at a low level. The rates of duty and the maximum and minimum prices were fixed to a great extent on hypothetical data and did not admit of the liquor being sold at prices sufficiently low to cope with illicit distillation. In fact the excise system was found to be as rigid and unelastic as the previous farming system was lax, and a change in the direction of allowing free play to

natural influences in determining the prices of liquor with reference to the circumstances of each locality was felt to be needed. A committee was appointed by Government in 1884 to consider the question, and on their recommendations very considerable changes were made in the system. The privilege of manufacturing country spirits was separated from that of sale; the total revenue derivable by Government being taken partly in the shape of a still-head duty on liquor issued from distilleries fixed sufficiently low to meet the circumstances of all parts of the farms, and partly in the shape of fluctuating rents obtained by leasing out the privilege of sale. The right of manufacture and supply for the whole district was assigned as a monopoly; the privilege of sale being sold for taluk areas or even smaller divisions; the vendors are bound to get their liquor from the monopoly distillers for Rs. 2 per gallon of 30° under proof and proportionate rates for 20° under proof and 60° under proof. Out of this charge the distiller pays to Government under the present (1885-86) contract Rs. 1-8-3 as still-head duty, reserving to himself 7 annas 9 pies per gallon, which is the rate at which he has contracted to supply the liquor. The taluk vendors select the shopkeepers and establish the shops for retailing the liquor, except in the town of Coimbatore where separate licenses for shops were sold by Government, the interference of the taluk vendor being limited to supplying the shopkeepers with liquor at prices not exceeding a prescribed maximum limit. The shopkeepers are practically allowed to sell at any prices they think fit. Licenses for the sale of European liquors, as also of the spirits manufactured in the country of strengths 20° under proof which are taxed in the same way as foreign spirits are likewise sold by public auction. These arrangements have resulted in an increase in the duty paid to Government and decrease in consumption, but they have been in force for too short a time to pass an opinion on the results. There was also unfortunately much reckless bidding at the auctions, and the renters have complained of heavy losses. The latest system now being brought into force (1886-87) is that of free supply which grants licenses to all proper applicants for the supply of liquor to the district, subject to due conditions for securing the duty. The right of actual vend is separately sold as before, the vendors obtaining their liquor from any of the licensed suppliers. The vend areas have been reduced in size with a view to local working by smaller capitalists. The still-head duty has been raised to

Toddy.—The toddy farms were till recently sold by taluks, and the renters generally sub-rented the privilege. Under the new system the taluks have been divided into several farms and sold. The result has been a large increase in the rentals and in the number of shops, but there have been several failures among the renters. The rise in the price of arrack is stated to have stimulated the consumption of toddy. The Abkári Committee of 1884 recommended the levy of a tax on

toddy trees, and when it is introduced, toddy will probably be taxed higher than it is at present, and any undue increase in the consumption of this liquor will doubtless be checked.

The vast number of palmyras in Erode, Dhérápúram and Palladam points them out as toddy-drinking taluks, but the rentals do not reach a high rate, probably because of the difficulty of preventing illicit drinking where most villages have thousands of private palmyra trees. Toddy is quite sufficient to bring on complete intoxication; in the hot weather it is much drunk by persons attending the weekly markets. It is, however, open to much less objection than spirits, and to considerably less than the concoction often sold in England as beer to the thirsty laborer; it is sold at from 2 to 4 annas per imperial gallon.

Licenses for the sale of European liquors were for 1882-83 thirty in number; they are practically confined to the towns. There were also four country bear licenses.

The following statement shows the statistics of the abkéri revenue for a series of years:—

No.	—	1820-21.	1830-31.	1840-41.	1850-51.	1860-61.	1870-71.	1880-81.
1	Abkéri revenue including toddy. Rs.	22,350	49,323	45,010	80,216	1,42,365	2,85,433	1,77,959
2	Population as given by Collectors ..	638,199	..	..	1,152,862	1,215,920	1,763,274	1,657,590
3	Rate per head. As.	0-9½	1-0	..	1-1	1-10		
4	Price of kambu per gurree .. Rs.	89	87	98	85	122	210	189

In weighing the above table it is to be noted, (1) that in the earlier years of the century there was little check over illicit distillation or manufacture; it was immemorial custom to have private or petty stills; this difficulty was enhanced by the inefficiency of communications and by the want of a regular police force for detection or for aid to the renters; (2) that, as shown by the price of labor and of grain, of which latter kambu has been entered as the staple, money was, until 1850, double its present value, so that the earlier amount per head represents twice as much liquor to the then drinker; (3) that, as shown by the high rate of revenue in 1871, there was before the famine a very decided state of comparative prosperity, especially among townspeople, who, as will be shown hereafter, drink per head nine times as much as rustics, and, in three towns alone, account for 24 per cent. of the revenue. Hence for the first two reasons, the rate per head, say of 1830-31, does not nearly represent the amount of liquor drunk, while the third reason partly accounts for an undoubted increase in drinking, at least in towns.

The low rate in 1840-41 was probably due to the series of bad years about that time, culminating in the terrible year 1837, which was only paralleled by 1877. The figures for 1880-81 show the effects of 1877.

It was estimated in 1876 by Mr. Dalzell, and by the renters after several months' experience of sales, that the normal consumption of arrack was about 110 or 115,000 gallons in the then state of the population, or about one-fifteenth of a gallon per head: this appears to have been an over-estimate, as the actuals for 1875 were only 86,404 gallons, or less by one-fourth. That of toddy was estimated from the rentals and known price of the liquor at about 618,000 gallons, or nearly two-fifths of a gallon per head of the population in the rented taluks. Arrack is distilled solely from jaggery, chiefly palmyra, aided by the bark of *Acacia leucophloea*; one maund (25 lb.) of jaggery is estimated to produce two gallons of ordinary spirit 30° under-proof. Toddy is usually that of the palmyra, but near Coimbatore town it is that of the cocoanut owing to the presence of large tops of that tree. Palmyra toddy is chiefly drawn from November or May; cocoanut toddy may be drawn all the year round, probably by reason of the greater moisture of the soil (wet land) in which the tree lives.

The following statistics adapted from the administration report for 1882-83 will give a complete view of the trade in Coimbatore.

Arrack.—The guaranteed revenue was Rs. 1,38,275 inclusive of Rs. 7,600 on account of a surcharge of 8 annas per gallon 30° under-proof, and 4 annas per gallon 66° under-proof in all municipal towns; the actual duty paid was Rs. 1,42,788 inclusive of surcharge proceeds of Rs. 8,422.

The alleged cost per gallon at the standard rate of 30° under-proof is as follows: the calculations are based on data furnished by the renters and their accuracy cannot be vouched for.

Cost including depreciation of plant, building, &c.	Cost of distribution.	Office and preventive staff.	Duty.	Total.	Retail price.
RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
0 14 4	0 2 10	0 2 3	2 1 7	3 7 0	3 13 8

The difference between cost and retail price forms the profit shared between the renter and the retail vendor. Regarding the prime cost of liquor (As. 14-4) it is to be noted that under the present (1885) system, the manufacturer issues to the licensed shopkeepers at Rs. 2 per gallon 30° under-proof; of this he pays to Government Rs. 1-8-3 as still-head duty, so that the whole cost of materials and manufacture, as well as profits, interest and depreciation of plant must be obtained from the remaining As. 7-9.

The consumption for 1882-83 was 68,752 gallons as against 86,404 in 1875. The actual figures for 1875 were 83,148, but of this a large proportion was 20° under-proof and has been reduced to the standard of 30° under-proof.

The next statement gives a view of the consumption distributed in various ways :—

District.	Popula- tion.	Survey- ed area.	Number of shops		Square miles per shop opened.	Popula- tion per shop opened.	Consumption	
			San- ctioned.	Opened.			In gallons.	Per shop.
1	2	3	4	5	6	7	8	9
Coimbatore.	1,657,699	6,652	1,438	624	10.5	2,656	68,752	110.2
District.	Consump- tion per head.	Rates of duty.		Prices.				
		30° under- proof.	60° under- proof.	Maximum.		Minimum.		
				30° under- proof.	60° under- proof.	30° under- proof.	60° under- proof.	
				10	11	12	13	14	15	16
Coimbatore.	0.41	RS. A. P. 2 0 0	RS. A. P. 1 2 0	RS. A. P. 3 12 0	RS. A. P. 2 12 0	RS. A. P. 3 4 0	RS. A. P. 2 4 0	
District.	Average retail price exclusive of surcharge in municipal towns.		Average retail price including surcharge in towns both 30° and 60° together.	Incidence per head of				
	30° under- proof.	60° under- proof.		Arrack revenue (excise duty and rental).	Toddy revenue.	Total.		
	17	18		19	20	21	22	
Coimbatore.	RS. A. P. 3 11 9	RS. A. P. ..	RS. A. P. 3 13 8	RS. A. P. 0 1 4	RS. A. P. 0 0 11	RS. A. P. 0 2 3		

The next table compares some of the above details :—

District.	Square miles per shop.	Population per shop.	Consumption per head.	Average retail price.
Coimbatore	10.5	2,656	.041	RS. A. P. 3 13 8
Average of excise districts ..	10.2	2,244	.047	3 14 0
Average of rented districts ..	4.4	1,068	.096	1 14 0

The difference between the average of Coimbatore and the rented districts is noteworthy; the rented are Vizagapatam, Godavari, Kistna, Kurnool, South Canara, and Malabar. The doubled consumption when the price is halved is especially noticeable.

The next statement distributes the consumption, &c., by taluks :—

Taluk.	Population.	Surveyed area.	Number of shops opened.	Consumption.		Consumption per head.	Sales per shop.	Square miles per shop.	Population per shop.	Average retail price.
				Quantity.	Amount.					
				GALE.	RS.	GALE.	GALE.			RS. A. P.
Coimbatore ..	267,804	677	91	22,466	89,254	094	246.7	7.41	2,943	3 15 7
Satyamangalam ..	161,313	969	65	5,292	19,787	035	81.4	14.75	2,328	9 11 10
Kollegal ..	77,622	813	71	6,784	26,435	087	95.5	11.45	1,092	3 12 0
Pollachi ..	172,909	445	58	4,922	18,464	028	84.9	7.67	2,981	3 12 0
Erode ..	193,669	609	50	6,953	27,632	035	139.1	12	3,913	2 15 7
Bhavani ..	94,123	606	31	2,741	19,150	029	88.4	16.32	3,036	3 11 3
Palladam ..	213,391	739	80	5,223	19,604	024	65.3	9.24	2,667	3 12 0
Dhárápuram ..	193,232	839	58	4,561	17,100	023	78.6	14.41	3,366	3 12 0
Karúr ..	177,155	612	66	5,710	22,468	092	80.5	9.27	2,684	3 15 0
Udumalpet ..	112,672	365	64	4,111	15,180	037	76.1	6.76	2,085	3 11 1
Total ..	1,637,090	6,552	624	58,762	265,079	041	110.2	10.5	2,656	3 13 8

The number of shops opened was 624 against 588 in the previous year, and consumption was 041 against 036 gallon per head. Twenty-four per cent. of the whole sales were in the municipal towns of Coimbatore, Erode, and Karúr, the population of which is only 3.5 per cent. of the district total, so that the townspeople drank about nine times as much per head as the rustics. Although the number of shops in Coimbatore taluk is below the average, the consumption per head is more than double the district average, and the sales per shop are proportionately larger. This is wholly due to the Coimbatore town population; money is more abundant, wages are higher, especially among laborers, and the trade can be exploited with the greatest ease, the town being the head-quarters both of the district and of the abkári renter. In 1875 the figures were as follow, showing that those for 1882-83 were not accidental; todley is also added.

Taluk.	Arrack.		Toddy.	
	Gallons.	Gallons per head.	Gallons.	Gallons per head.
Coimbatore ..	27,318	112	213,000	576
Palladam ..	5,889	094	80,000	333
Pollachi ..	7,828	048	48,000	286
Erode ..	6,637	028	92,000	394
Bhavani ..	5,086	032	50,000	612
Karúr ..	8,320	048	51,000	289
Dhárápuram ..	4,320	019	54,000	243
Satyamangalam ..	7,808	046	30,000	176
Udumalpet ..	4,989	04	..	..
Kollegal ..	7,989	086	..	..
Total ..	86,404	..	..	..

Monthly sales were as follow :—

Months.	Sales.	Percentage of sales.	Months.	Sales.	Percentage of sales.
	<i>GALS.</i>			<i>GALS.</i>	
April 1882 ..	4,762	6.9	November 1882 ..	6,583	10.0
May	6,346	7.8	December	6,266	9.1
June	6,866	8.5	January 1883 ..	6,040	8.8
July	6,072	8.2	February	4,847	7.1
August	5,990	8.7	March	4,828	7.0
September	6,762	8.4			
October	6,775	8.4	Total ..	68,752	100.0

Climate apparently influences drinking.

Toddy.—The rental for each taluk for the triennium 1881-84 and for the year 1884-85 is shown below :—

Taluka.	Rental.		Taluka.	Rental.	
	1881-84.	1884-85.		1881-84.	1884-85.
	<i>RS.</i>	<i>RS.</i>		<i>RS.</i>	<i>RS.</i>
Coimbatore ..	35,000	40,500	Palladam ..	9,150	16,050
Satyamsangalam ..	11,000	15,000	Dharmapuram ..	5,000	9,000
Kalligal ..	5,100	6,250	Karur ..	4,400	9,850
Palakkhi ..	6,440	10,000	Udumalpet ..	1,000	1,800
Erode ..	13,000	14,750			
Bhavani ..	4,000	6,500	Total ..	93,400	1,40,650

The next table distributes the shops with other particulars for 1881-84.

Population.	Area.	Number of shops sanctioned.	Number of shops under renters.						
			Number under ambari.	Number under dowlas.	Number rented separately.	Number not opened.	Number sub-rented.		
1	2	3	4	5	6	7	8		
1,657,600	7,842	878	40	35	4	67	723		
Number of shops under sub-renters.			Total number of shops not opened.	Total number of shops opened.	Rental.	Population per shop.	Square miles per shop.	Incidence of revenue per head.	
Number under ambari.	Number under dowlas.	Number rented separately.							Number not opened.
9	10	11	12	13	14	15	16	17	18
350	50	..	143	210	656	93,400	2,482	11.7	RS. 8. P. 0 9 11

Miscellaneous.—European liquors and country beer are tabulated as follows :—

European liquors.						Country-brewed beer.						Total.	
Wholesale.		Retail.		Total.		Wholesale.		Retail.		Total.			
Number of licenses.	Fees.	Number of licenses.	Fees.	Number of licenses.	Fees.	Number of licenses.	Fees.	Number of licenses.	Fees.	Number of licenses.	Fees.	Number of licenses.	Fees.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
12	RS. 300	18	RS. 270	30	RS. 579	..	..	4	RS. 60	4	RS. 60	84	RS. 630

Revenue.—The whole revenue is shown below :—

District.	1882-83.					Incidence per head.
	Arrak.	Toddy.	Miscellaneous.	Total.		
Coimbatore ..	RS. 1,43,156	RS. 83,400	RS. 746	RS. 2,37,302	RS. A. P.	0 2 3

CHAPTER XIII.

IRRIGATION.¹

Pondic Works.—Extent.—Classification.—Kadimarnat.—Channel Administration.—
Sources of Irrigation.—Tanks, Development of Public Irrigation.—New Projects.—
Restoration of Works.—Improvements to ditto.—Economy in Distribution.—Num-
ber, Size, Ac., of Simoon. Private Irrigation.—Wells.—Number and Irrigated
Area.—Well-boring.—Water-lifts.

THE following table shows the extent and revenue of the various works
for Fasli 1291 (1881-82):—

—	Total aymout.		Deduct.					
	Extent.	Assess- ment.	Income.		Government waste and waste remitted.		Total.	
			Extent.	Assess- ment.	Extent.	Assess- ment.	Extent.	Assess- ment.
	ACR.	RS.	ACR.	RS.	ACR.	RS.	ACR.	RS.
Channels from the								
Cauvery ..	5,500	44,573	1,165	8,511	55	398	1,216	8,909
Do. Bhavani ..	26,820	2,08,275	1,451	18,167	700	4,838	2,180	23,005
Do. Amaravati ..	25,174	1,80,751	2,916	24,614	576	1,972	3,492	26,586
Do. Alayar ..	5,313	26,210	285	2,430	8	38	293	2,475
Do. Noyil ..	16,309	1,21,883	2,613	22,126	1,614	10,294	4,227	32,420
Jungle streams ..	9,065	24,751	297	1,365	1,013	3,720	1,312	5,104
Run-fed tanks ..	13,776	68,610	1,459	7,783	1,434	8,594	2,943	16,379
Total ..	98,797	7,24,662	10,296	85,005	5,427	29,671	15,663	1,14,876
Remainder under cultivation.								
—	Extent.	Assessment.	Jamabandi.				Total.	
			Ayan.	Jodi.	Water- tax.			
	ACR.	RS.	RS.	RS.	RS.	RS.		
Channels from the								
Cauvery ..	4,290	36,764	35,132	514	657		36,363	
Do. Bhavani ..	24,516	2,45,270	2,32,858	3,370	12,300		2,40,537	
Do. Amaravati ..	21,622	1,54,165	1,54,442	2,843	4,236		1,61,321	
Do. Alayar ..	5,020	23,735	25,231	24	82		25,487	
Do. Noyil ..	11,962	89,463	81,927	1,749	1,124		84,810	
Jungle streams ..	4,793	19,647	17,078	111	645		18,435	
Run-fed tanks ..	10,837	51,842	38,967	567	438		39,962	
Total ..	83,134	6,10,666	5,86,385	9,175	20,462		6,16,655	

¹ In the present section the systems, projects, works, and mode of managing the works will alone be dealt with; for irrigation as applied to agriculture, see "Agri-
culture;" for further details see Taluk Notices and Appendix.

Irrigation works may be classed as follows:—

Nature.	Major.							
	River channels.		River-fed tanks.		Rain-fed tanks.		Jungle streams.	
	No.	Acreage.	No.	Acreage.	No.	Acreage.	No.	Acreage.
Public ..	33	59,047	35	15,157	16	2,301	..	..
Private ..	1	550	2	375	..	..	..	..
Total ..	39	59,597	37	15,532	16	2,301	..	..

Nature.	Minor.									
	River channels.		River-fed tanks.		Rain-fed tanks.		Jungle streams.		Irrigation wells in good order.	
	No.	Acreage.	No.	Acreage.	No.	Acreage.	No.	Acreage.	No.	Acreage actually irrigated.
Public ..	24	5,579	21	6,105	73	3,970	..	..	..	..
Private ..	..	..	2	123	2	49	45	2,637	62,767	261,275
Total ..	24	5,579	23	6,233	75	4,019	45	2,637	62,767	261,275

The grand total of irrigable area is 98,797 acres of wet land and about 251,275 acres of garden lands under actual irrigation, besides about 105,000 acres under wells not in repair; of these, about 70,000 acres could be irrigated if the wells were or could be repaired.

Receipts and expenditure for 1882-83 will be found in the Appendix.

Works are classed as major and minor; the former, under the Public Works Department, include all channels and tanks irrigating above 200 acres, as well as smaller tanks if in a major series or if they command any important work such as a railway; the latter include all tanks below 200 acres, and are at present in charge of the Revenue Department. Particulars will be found in the Appendix.

The Public Works Department do not operate upon all major works at a time, but only upon such as their limited establishments and grants can deal with. At present the department charges itself mainly with the clearance and repair of the following channels and tanks:—

Kalingaráyan channel.
 Tádapalli do.
 Arkanikottai do.
 Púgalúr do.
 Vángal do.
 Kallápuram do.
 Kadatúr do.
 Sholamadévi do.
 Kárátholuvu do.
 Kumaralingam do.

Dulaváypatnam channel.
 Dhárápuram do.
 Nanjeítalaiyúr do.
 Chinna Dhárápuram do.
 Sundakkáypálaiyam do.
 Pallapálaiyam do.
 Panchamadévi do.
 Chitrachávari do.
 Kuniamuttúr tank.
 Komárasami do.

Coimbatore channel.	Dhali channel.
Válankulam tank.	Appagudal group of tanks.
Singanaillár do.	Yennamangalam tank.
Iragúr channel.	Gottisamudram do.
Kárapatti do.	Kunnatúr do.
Pullivelangal anicut.	Uppidamangalam do.

This does not cancel the duties of kudimarámat or customary labor where such already exists, as on the Amarávati channels. In such cases, while the State charges itself with the formation of new works and with important additions to, and alterations and repairs of old works, all petty repairs and certain customary duties are carried out by the ryots themselves, usually, as in Karúr, under revenue supervision; consequently the fact that a channel is under improvement by the Public Works Department does not suspend, much less cancel, kudimarámat where it exists.

The details of kudimarámat will be found in Taluk Notices, as they vary for each taluk and channel; but it may be noted that the rule is to contribute labor or grain at per karei or unit of area, both the labor unit and area unit varying according to usage, but averaging for good river channels a value equal to Re. 1-6-0 per acre (A. McC. Webster as Sub-Collector). The practice is one of immemorial antiquity; the State originally claimed half, or a larger share of the gross produce, and the ryots were left to their own devices; consequently they united to keep their channels in order, assessing themselves at so many coolies and so much grain per karei or unit; this union was absolutely necessary in channels whether ancient or korambu, in the former to keep channels clear, in the latter to form and maintain the korambus or temporary dams. In modern days the power or inclination to unite for common interest has temporarily broken down owing to the partial disruption of the village system, the substitution of individual for village interests, and the prevalence of faction. In Karúr the substitution of a money cess has been attempted for many years; it is now partially carried out, but nothing can be properly done till the Kudimarámat Bill becomes law. The following are the remarks of Mr. McWatters, C.S., for five years in charge of the sub-division, where many of the chief channels are; they are contained in his reply to the questions of the Famine Commission of 1878:—

“The system of channel administration is as follows:—

“*Distribution of water.*—The duty of seeing that water from Government irrigation works is properly distributed is supposed to devolve upon the Revenue authorities. The establishment entertained for this purpose varies in every village. Under the channels branching from the Noyil river service inams have been set apart for the airani, monigara, nirganti, &c., comprising the distributing establishment; under the Bhaváni channels a cess is entered separately in the puttaha for this purpose and is collected in the same manner as Government land revenue, while under the Cauvery and Amarávati channels the distributing establishment is paid by voluntary

contributions of grain. Where service inams have been allotted, or where the custom has grown up of entering a separate cess in the puttahs, the appointment and dismissal of the establishment rests solely with the Revenue authorities. Where the voluntary system of paying in kind prevails, the cultivators appoint the distributing establishment themselves, and the Revenue authorities have practically no control over the distribution of the water. The rich and influential ryot has it all his own way, and the poorer ryot is generally the sufferer. An obstinate ryot paralyses the whole system, and the establishment either strikes for wages or sides with a particular party or faction in the village, and places every obstacle in the way of all others getting water. The grain voluntarily contributed forms a sort of general fund in the hands of a selected headman, who, besides paying the actual establishment, defrays also any extra expenditure entailed on the village by official visits, &c., and the balance, sometimes very considerable, he appropriates to his own use. This headman is really the only party interested in keeping up such a system.

Annual clearance of silt.—In the channels under the Bhaváni and Nôyil the Public Works Department carries out this work. In the case of the Kalingaráyan channel there is a particular cess levied for this purpose as well as for the distributing establishment, and this is collected by the Revenue Department and carried to the credit of irrigation. The southern channels or those leading from the Cauvery and Amarávati are cleared, except in special instances, by kudimarámat, that is, by voluntary combined village labor. Kudimarámat, however, has greatly fallen into desuetude and has been found well nigh impossible to enforce in practice. The result naturally is that these channels are not attended to.

Korambus.—Channels without anicuts are particularly troublesome. To secure a proper supply of water in such channels, every time the rivers are low the ryots should voluntarily combine among themselves and construct temporary dams or korambus to raise the level of the water in the rivers and force it into the channels. The first fresh washes these korambus away, and when the water runs low again they have to be reconstructed. If the ryots combine, the work is easily done, but when they quarrel, as they nearly always do now, the korambus are either not raised at all, or done so indifferently that the water fails. A great many of the cultivators under the Púgalúr channel have been nearly ruined during the last two or three years owing to dissensions about korambus. The channel administration is susceptible of vast improvements. At present the channels from the Nôyil and Bhaváni are much better managed than those from the Cauvery and Amarávati, simply because everything is left to the ryots themselves under these latter channels. The ryots are supposed to combine voluntarily and pay in kind for the upkeep of the distributing establishment, the annual clearance, and frequent korambus, and they seldom or never do so and the channels are neglected. I do not know how two such different systems have existed side by side for so long in the same district. It would seem that at one time the voluntary system prevailed under every channel, and that owing to the difficulties it gave rise to, as in the case of the Kalingaráyan channel, the Government allowed the voluntary grain allowances to be commuted into fixed money payments and entered in the puttahs. This was done also at the instance of the ryots under the Púgalúr channel for a few

years, but when Mr. Webster was Sub-Collector he considered it was illegal, and the old grain system was reverted to, and since that time the Púgalúr channel has been the cause of constant and bitter feuds, and has regularly been neglected.³ The Tahsildar is simply helpless in the matter, as he has absolutely no control whatever over the distributing establishment, and he finds it impossible to muster coolies for either the working of the korambus or the annual clearance.⁴

On this subject see also Collector's letter No. 135 of 1880 with its references, and Mr. Arundel's pamphlet on Irrigation and Communal Labor, written when Sub-Collector of Coimbatore.⁵ The kudimaramat on tanks is similar to that noted in Board's Standing Order on the subject.

Channels are fed either by anicuts or korambus; in the former case there is little trouble; so long as water goes down the river it is thrown down the channel by the dam, and it only remains to keep the channel and its head in good order. Korambus are temporary dams of brush-wood and piles extending for perhaps half a mile up the bed of a river and leading the water to the mouth of the channel. As soon as a river gets low, these are run out by the united labor of the ryots, and it is these and their upkeep for several months, and their renewal when washed away by freshes, that cost so much in labor and united effort. It is, however, only on the Cauvery that these dams are very costly and troublesome.

It will be seen from the remarks on p. 3 that little land is irrigated from the Cauvery, which flows along a bed far below the surrounding country until it has passed Erode; except a small quantity in Kollegal, the Cauvery wet lands all lie in Karúr. Below Erode the river requires embanking; this has been done as far as Vángal; below that there is no bank and a good deal of land in Nerúr is occasionally submerged and covered with sand, involving loss to the ryots and to Government.

The Bhaváni in Satyamangalam and Erode and the Amarávati in Udumalpet, Dhárápúram and Karúr, are by far the most important irrigation sources. The Náyil irrigation is but second class; this little river is more of the nature of a jungle stream, and has from time immemorial (*vide* Collectors' reports) been noted for its capriciousness and the violence and the brief duration of its freshes; it has consequently

³ There is now (1884) no difficulty in Púgalúr on this score; ryots have agreed to pay a rate of R. 1-8-0 per acre, to be collected by the Tahsildar and given out for use as wanted. This is also done in several other Karúr channels.—N.

⁴ The following papers may be consulted on this subject:—

(1)	Board's Proceedings, No. 5284, of 13th August 1879, with the references quoted therein.
(2)	Do. " 1215, of 7th July 1873.
(3)	Do. " 7735, M.S., of 15th November 1873.
(4)	Do. " 1894, of 22nd September 1873.
(5)	Do. " 2112, of 5th August 1874.

been supplemented by tanks which it fills along its course; these are specially noticeable at Coimbatore town. In Palladam taluk a considerable area used to be fed by channels, which, when the river was not in fresh, were supplied, though scantily, by spring channels, *i.e.*, excavations dug in the sand for miles above the channel bed and intercepting the underground current, which was then always available, as at this day in the Madura Vaigai. Of late years these spring channels have been found useless, the underground flow being but slight and short. This and the increased violence and fitfulness of the freshes are directly attributable to the denudation of the Bolampatti forests at its source to supply the immense fuel and timber demand of Coimbatore and its neighbourhood. It is the loss of the underground current that has caused a large transfer in the recent settlement from wet to dry, and it is in this loss that the forest denudation has most shown its effects, a result which agrees equally with observation and inference. The conservation of the forests which yield a gradual supply to the more important Bhavani and Amaravati rivers is a source of some anxiety; the forester here is more important than even the engineer.

Roughly speaking, all the rivers of the district are rivers of the south-west monsoon, and the irrigation therefore begins with that monsoon; the rain-fed tanks and jungle streams are fed generally by the north-east monsoon, which is capricious in the extreme.

The channels are in fair repair, but require an immense amount of improvement; alicuts and retaining walls need attention, beds require clearing, sectioning, and reducing to a uniform level and fall; blasting is often requisite in beds; head works and sand sluices are to be built; escapes to be screw-shuttered and made water-tight; field sluices to be regulated and built; aqueducts, syphons or masonry kolváys (escapes) for the passage of surface streams to be constructed or improved; banks to be strengthened, new cuts to be made, and so forth.

There are two series of stream-fed tanks, *viz.*, the Appagudal series in Bhavani taluk and the Dhali series in Udamalpet taluk. The first is fed from the Bargár hills by various petty streams, and the tanks usually fill in the north-east monsoon. A very fine tank (Yannamangalam) at the head of the series, which has for years been totally ruined, has just been repaired at an expense of Rs. 19,000 and promises a good return both to Government and the ryots. The Dhali series is fed by streams from the Anaimalais; for further details, see Udamalpet taluk notice.

Rain-fed tanks, *i.e.*, those fed by surface streams after heavy rain, are more or less isolated and of little importance; cultivation is very precarious under them, and is seldom successful more than once in three years. They are all much silted; beyond strengthening the bunds, replacing the revetments where necessary, and repairing the sluices, little can be done; money spent is too often wasted. Mr. J. Sullivan remarked more than sixty years ago that the ryots were clamorous to have the silt

removed from the tanks, but that this was a useless undertaking, as the expenses would be immense, while they would be again silted up in a short time. Those who know the shallow ponds called rain-fed tanks in the Coimbatore district, with the wide, shallow waterspread necessitated by the flatness of the country, and the small irrigable area, will recognize the justice of Mr. Sullivan's opinion. All that can be done is to strengthen the existing banks. Moreover, the revenue returns show that these tanks have continually failed to receive a supply owing to defective rainfall; and of late years this is still more the case, since (1) cultivation has greatly extended, so that ordinary rain does not run off so readily as formerly; (2) wells have trebled in number since 1800, so that, as each well has a long substantial watercourse and very often a bund to store up water and protect the well, the surface water is caught and retained in thousands of pools, while the earth, being more porous near the wells, more readily absorbs the fall. Hence it is almost useless to spend money on mere rain-fed tanks in the open country.

DEVELOPMENT OF IRRIGATION.—This divides itself into four heads: (1) new projects, (2) the restoration of ruined works, (3) the extension and improvement of existing works, (4) the better use of existing supplies of water, or improvements in distribution.

New projects.—The district belongs to the B Project division, and a staff is now (1884) engaged in examining two great works—(1) the project of Colonel Montgomerie to store the flood waters of the Bhaváni in an immense reservoir somewhat above Satyamangalam, and thence to irrigate a vast tract of country through Palladam and Dhárápúram down to the Amarávati—a project which, if feasible and carried out would transform a large and dry area, create immense wealth, and go far to deliver the district from serious famine, since the Bhaváni, being fed by the south-west monsoon on the Western Gháts, has never been known to fail; (2) the extension of the Kalingaráyan (*vide infra*). Mr. Wedderburn, lately Collector, observes as follows in his No. 44, dated 27th March 1872:—

"2. Several schemes of water storage were once mooted. The Bhaváni valley above Mettupálaiyam was to be bunded up to an immense height, but no plans or estimates were ever made as far as is known here.

"3. A feeder of the Bhaváni was to be diverted and turned into the source of the Nôyil, which springs from the mountain side above Bolampatti. I understand that the junction of the waters was to be effected by cutting through a hill ridge and by a 250 feet embankment, or else by a catch-water drain along the mountain side, and a former Collector adverted to benefits which would arise if Bolampatti valley were made a reservoir. No doubt valleys are capable of being converted into reservoirs (this one, by the way, is now under cultivation) and extensive projects may be mooted, but in the absence of data of expense, I can pretend to no opinion on the subject.

"4. The Bhaváni, as a river, is very considerably utilized, so much so that it scarcely irrigates all the land subject to it, and cannot irrigate that

land with a double crop. It seems very doubtful to me whether much more could be made of it than is now done. The regulation of its supply to meet all the demands occupies a deal of anxious attention.

"5. However, I examined the Kanyampālaiyam anicut and channel between Sirumugi and Denaikankottai, now out of repair. The anicut is a rough native one; some of the large coping stones have been displaced, and there is the disadvantage of a jungle stream of considerable size debouching opposite the anicut and at the head of the channel, silting it up to a great extent.

"The country^a through which the channel passes is most dangerous to health, frequented by tigers, and uninhabited. Denaikankottai, once a large fort, is entirely deserted, and the cultivators cross the Bhavāni to their work on the left bank during the day, returning to their homes on the right bank at night. The estimate for repairing the anicut and channel is Rs. 3,100; the ayacut 1,208 acres; the revenue for the past year 1870-71, when in repair, Rs. 247-4-0. The original and subsequent outlays on repairs amount to Rs. 58,589, and scarcely Rs. 40,000 have been realized in forty-five years.

"6. The Cauvery river is proposed to be utilized by an anicut at Neringipettai for the advantage of this district and Salem. I have no conception of what the cost of the work will be, so cannot guess as to its remunerative value; the prospective return was roughly guessed at Rs. 26,000 per annum in this district. The channel to be taken off was to be a single cross one and a short cross one, so as not to interfere with the interests of the Trichinopoly and Tanjore cultivators. The possible drawback may be the very unhealthy character of the confined banks of the Cauvery.

"7. The Amarāvati is very fully utilized. It rises in the valley between the Ānaimalais and the Palnis, and a limitation has to be placed on extended irrigation from it, so as not to interfere with existing interests. I know of no extension of irrigation that could be recommended.

"8. Also the Nēyil does not nearly suffice for the tanks dependant on it; it barely filled its upper tanks during the last south-west monsoon, its source being in the western ranges of hills above Bolampatti. It came down in a flood last November, but that was due to an unprecedented local rainfall, not from its source, but lower down, by jungle streams bursting tanks and these pouring into the river. It would be utter waste of money to provide storage for a flood that occurs once in a lifetime.

"9. On the whole, I think that this district is well provided as regards the utilization of the sources of irrigation. I would look for advantage, not to the construction of more, but to the improvement of the present works, building more minor irrigation or distribution sluices, extending calligulas, levelling and revetting channel and tank banks."

On the above it is to be remarked that as to the project in paragraph 3, recent professional opinion favored a re-examination of it; the stream which was to be diverted may be seen from Coimbatore in the south-west monsoon above the saddle which it would have to cross to

^a This area would probably be entirely submerged if Colonel Montgomerie's scheme be carried out.—N.

feed the Nôyil. The difficulties do not seem at all insurmountable to modern engineering skill. It is also true that the Bhavâni supplies a good deal of irrigation, and that it is "very considerably utilized," but it is a perennial river with heavy floods, which, if curbed by reservoirs, would be beneficial instead of destructive or useless. Moreover, it is not the regulation of the river-supply that occupies anxious attention so much as of that part which is taken off by the channels. Some difficulty, indeed, exists at the anicut which feeds the Tâdampalli and Arkankottai channels, when the river is very low; this is met by a temporary bund along the top of the anicut; there is sufficient water in the river if the anicut crest is temporarily raised. But even if the river-supply be defective during certain seasons, the question of storing the immense unused volumes of flood water is unaffected, or rather the necessity is increased.

The Nerinjipettai anicut actually exists in part; it was built by a Mysore Raja and used, in fact, to feed a channel on each side of the river (Buchanan), but breached long before Buchanan's visit in 1800. It is believed that Sir Arthur Cotton desired to revive this work if only to assist in curbing the Cauvery floods (*cf.* those of November 1880 and July 1882), and intended to drive a large channel through Salem and South Arcot to Porto Novo, using it both for irrigation and communication. The project was examined some years ago, but the report is said to be unfavorable. If feasible, it would be a work of great benefit.

It is true that the Nôyil is capricious, but the expression "a flood that only occurs once in a lifetime" is much too wide; the old reports frequently speak of its freshes and fitfulness, and it has been down in heavy flood many times since 1879 both in the south-west and north-east monsoon, traffic having been several times stopped for days in the Dhârápuram and Erode taluks, as lately (1883) for several days together in November. Whether storage can be provided is a question, but there is ample flood water; it is to be remembered that a four or six months' tank once filled will give a crop whenever it happens to be filled, which would usually be in July or November. The ryots of Periapálaiyam (Erode) suggested a short channel from near Tiruppûr to their tank, which, though nominally fed by a jungle stream called the Nallâr, has only filled once (1883) since 1877; the ryots of Pálatoluvu (Erode) also suggest a channel from the Vadugapálaiyam anicut.

In this connection the replies of Messrs. Mead, Pennycuik, and Awlry to the Famine Commission of 1878 are of great importance. They stated of Salem and Coimbatore that "it is always possible to find works of this class (irrigation works involving heavy embankments and the excavation of canals), whose remunerative character is beyond question; the time when all possible remunerative works in Salem or Coimbatore shall have been completed is so far distant as not to be within the limits of practical consideration. In the Coimbatore district

the construction of reservoirs on the Bhaváni and other tributaries of the Cauvery would be of permanent value in regulating the supplies to the channels from the Bhaváni and Cauvery rivers, and would from their nature be useful works for relief purposes, though their direct return would not be sufficient to justify their construction in ordinary times. If waste of water can be put down, several channels from the Amarávati and other rivers might with advantage be extended." The remark as to the direct return does not, of course, apply to storage schemes such as the Bhaváni storage scheme above alluded to, but to works undertaken as relief works and intended merely to regulate and supplement the supply in various channels.

On the whole it seems that it is generally in the direction of storage that schemes for new works must tend; the great rivers come down in vast floods and are not only a source of danger to the districts below, but flow uselessly and mischievously to the sea, as notably in November 1880 and July 1882, irrespective of the numerous ordinary floods; the valleys of upper Coimbatore appear to present facilities for such schemes, of which Colonel Montgomerie's is one. General Morgan has mentioned others schemes (Agricultural Exhibition Prize Essay, 1883), such as that of the Attapadi valley, the "Silent valley" of the Bhaváni, the Moyar valley near Gazalhatti,² and the Nallur (? Pálár) river near its junction with the Cauvery at Nadukaval, but particulars are not known.

Restoration of ruined works.—The restoration of ruined works is occupying attention. The Yennamangalam tank in Bhaváni, fed from the Bargúr hills, has just been finished (1884); another in Karúr having an unusually large gathering ground is to be repaired as an aid to the Pallapálaiyam channel. There is no doubt a complete list in the Executive Engineer's office.

Buchanan (chap. 8) states that there used to be in Kollegál taluk forty or fifty tanks in good order about 1720 A.D., which went to ruin in the second half of that century. At present there are only seventeen in good order. He mentions a number of ruined tanks between Pallia and Singanallúr in this taluk; also several dams and channels on the Tati-holei river which might be utilized for feeding storage tanks; similarly at Kádhalli. In the Bhaváni taluk below gháts he noticed a very large ruined tank (Swayamvara Eri, 5 miles south-west of Kávéri-puram, fed by the Swayamvara pallam), said to have irrigated over 500 acres of land; south of Kávéri-puram, but north of Pálamalai, he noticed the Kolatúr river which fed the Kolatúr tank, between which and the Cauvery four other tanks, besides one above the Kolatúr tank, used formerly to irrigate a good deal of land, but had been breached by a flood; these have not been repaired.

Improvements, &c., to existing works.—In the improvement of existing works there is much to be done; several points have been noticed

² Colonel Montgomerie's scheme?

above. Extension is not always possible, but many channels will allow of it in some degree. But until existing supplies are regulated and more economically distributed, no extension of importance is practicable. The extension of the Kalingaráyan across the Náyil, where it now ends, through the Karúr taluk as far as Karúr, so that its tail waters would fall into the Amarávati, is an important work. This is said by Buchanan to have been the ancient terminus of the channel, and there are traces both in the names of fields and in embankments to this day. The extension is being surveyed and planned, and is likely to be carried out, as the channel now waters only 8,866 acres including inam lands, while enough water enters it to irrigate (theoretically) above 30,000 acres, and probably at least 20,000 with ease. This project involves preliminary attention to existing field sluices, as the immense body of water is used in immoderate excess, as much as 250 inches being used in some tracts for the two crops, while from 90 to 110 would be ample; after a 2 inch fall of rain, irrigation is not required for a week.

Distribution and its improvement.—It is in the matter of distribution (field) sluices that attention is especially required; the importance of the subject in an agricultural, economical, revenue and engineering point of view demands treatment at some length.

A regulation of the field sluices would benefit agriculture, be an economical boon, relieve revenue officers of difficulties as to water-supply and distribution, and enable the engineers to find water for their extensions.

(1.) Sluices are too numerous; *e.g.*, the Kalingaráyan is 57 miles long, irrigates about 8,866 acres, and has 1,840 sluices, or on an average one sluice for 4·8 acres. Many of these sluices are side by side or within a few feet of one another; the work of such could easily be done by one new sluice. Mr. Hannan proposed to regulate the channels by a very few sluices with cisterns at the rear, irrigating the fields in turn by small channels along the toe of the bund; this was considered impracticable. But where three, four, and even seven sluices may be seen (*e.g.*, Kolinjivádi) starting side by side from one immense orifice in a bank, it is obvious that many could be done away with.

(2.) They are too large, and this is the chief evil. This may be inferred from the fact that the Kalingaráyan tail water is very scanty, though the channel receives water sufficient for 30,000 acres and irrigates less than 9,000, besides a small area irrigated by baling. Mr. Arundel's remarks in the settlement reports of Satyamangalam and Coimbatore (paragraphs 5 and 34) and in his pamphlet on irrigation demand attention, and are of general application. It is to be remembered that a sluice of six inches square with an ordinary head of, say, three feet above the sill, will irrigate fifty or sixty acres.

"It is proper to notice here the excessive waste of water for irrigation which prevails throughout these channels (Satyamangalam). In numerous cases the water is taken off through open cuts where no regulation takes

place. Most of the old sluices are needlessly large, and those that are built or repaired by the Department of Public Works are frequently torn open by crowsbars to enlarge the vents. The channel watchers altogether fail in bringing such mischief to notice, and as the damage is usually done at night, detection is almost impossible. The only effective method of guarding sluices from damage or destruction seems to be to make the villagers interested responsible for the safety of the sluices, as they now are, under Act XXVIII of 1860 (section 9), for the safety of boundary stones. The irrigated area at the end of both the Arakankottai and the Tádapalli channels has been considerably contracted, while the contour of the country affords every facility for extension of irrigation, and the water-supply actually received into the channels is sufficient for the irrigation of twice the present area. I have often seen great volumes of water pouring back into the river after escaping through the gaps and sluices, while the crops at the end of the channel were withering for want of water to keep them alive. Detailed information has been obtained regarding the size of the sluice-vents, area irrigated, &c., of all the numerous sluices in the two channels above referred to, and the lists have been forwarded to the Collector for information and for record. An examination of these lists is sufficient to account at once for all failure of crop for want of water at the end of the channels. In paragraph 34 of this report will be found some illustrations taken from a similar list prepared for a channel in the Coimbatore taluk.

"The remarks already made regarding the waste of water in the channels of the Satyamangalam taluk apply with equal force to the channels in Coimbatore. I have obtained detailed information regarding the size of the sluice-vents, area irrigated, &c., in the Chitrachárvadi channel, which is supplied by the river Náyil and irrigates about 4,000 acres of land. The following extract from the list will show the utter absence of system and control in the distribution of water, and I may add that this absence of system is the rule and not the exception throughout all the channels to which I refer.

Chitrachárvadi channel.		
Sluice number.	Size of vent in inches.	Area irrigated in acres.
32	16 × 16	76
33	16 × 16	15
34	14 × 14	6
35	12 × 12	20
36	14 × 14	194
37	14 × 14	49
38	14 × 18	20
39	Open cut through bank.	14
40	28 × 28	41
41	24 × 26	10
42	11 × 6	4
43	15 × 16	119

"Here it will be seen that the largest area under any one of these sluices is 194 acres, and that the aperture or vent of that sluice, No. 36, is 14 inches

square. But the next sluice-vent, No. 37, is of the same size, and has to irrigate only 40 acres. The next again, No. 38, is still larger, and has to irrigate only 20 acres. Worse still No. 39, an open cut or gap through the channel bank, irrigates only 14 acres. The largest sluice-vent of all, No. 41, is a huge cavity more than two feet square, which has to supply the trifling area of 10 acres."

"In illustration of the actual working of the system described in the preceding pages, the following particulars are given regarding a small channel supplied from the third weir across the river Nôyil. It is one of the twenty-five fed by that river, which together irrigate 19,000 acres, yielding a revenue of Rs. 1,40,000 (£14,000). It has a total length of about six miles, and is intended to supply four tanks or reservoirs, and to irrigate a total area of 2,477 acres. Between the head or beginning of the channel and the first of the four reservoirs or tanks there were, a short time ago, eighteen sluices and one open cut through the bank. The sluices had vents of such capacity that they would suffice to irrigate an area of over 3,000 acres. The area actually irrigated by them is only 183 acres. None of the sluices were provided with shutters or plugs.* Huge volumes of water of course escaped into the river before the channel reached the first reservoir. Last

* Pamphlet on "Irrigation and Communal Labour," by A. T. Arundel, Esq., C.S.

The following is a list of the sluices referred to, with the sizes of the old apertures and the area irrigated by each. Fractions of acres are omitted. The facts are striking enough. The smallest plot is only 2 acres in extent, and had a sluice-vent 1 foot high by 1½ broad to irrigate it! * The largest vent was 1½ feet high by 2 feet 3 inches broad, and had to irrigate only 12 acres. The twentieth sluice at the first reservoir or tank happens to be 14 inches square and it irrigates 204 acres. As 14 inches square is the average size of the aperture of the previous 19 sluices, multiplying 19 by 204, we get 3,876 acres as the area capable of irrigation. The result is, of course, true only on the supposition that there is a flow of water in the channel to correspond:—

No. of sluice.	Size of old aperture.	Area irrigated.	No. of sluice.	Size of old aperture.	Area irrigated.
	INCHES.	ACRES.		INCHES.	ACRES.
1	12 × 13	8	12	10 × 7	7
2	18 × 19	11	13	12 × 31	5
3	12 × 13	10	14	5 × 9	4
4	Open cut.	3	15	10 × 10	3
5	12 × 18	2	16	15 × 15	6
6	12 × 12	15	17	18 × 21	12
7	12 × 18	13	18	12 × 14	5
8	12 × 12	3	19	13 × 19	12
9	13 × 15	33			
10	10 × 18	14			
11	18 × 27	12		Total ..	183

* A great deal depends on the height of the sill of the sluice; smaller new sluices may be seen in other channels, purposely built by authority at a high level so as to catch only the high-level water, and consequently of large area, so as to limit off a sufficient supply on the occasions when the channel is running full. This is certainly a reason for the very large size of some sluices; of course all sluices, especially of such size, ought to have means of closure.—N.

season (1878) 200 acres that ought to have been irrigated lay waste or grew inferior crops, and Rs. 700 (£70) of State revenue were lost owing to deficiency of water. To bring about a better state of things, the chief landholders, at the suggestion of the authorities, consented to defray the cost of regulating the sluices in question, and the Engineer found that everything could be set right for Rs. 325 (£32-10) or half of the sum lost to Government in a single year. The money was paid as promised, and the work has recently been completed by the Department of Public Works.

"The actual loss of revenue on the twenty-five channels supplied by the Nôyil river in 1875-76 was Rs. 27,858 (£2,785) on 3,051 acres. As the total revenue should be Rs. 1,40,000 (£14,000), this is a loss of 19 per cent. It is not asserted that the whole of this amount could be saved to Government by careful economy of water. That the bulk of it, however, would be saved is certain. It is difficult, if not impossible, to show by figures the full loss to Government, or to the cultivators, by the waste of water for irrigation. In many instances the landholder finding the water-supply insufficient, sinks a well to supplement it, and continues to pay the high tax for irrigated land although no crop would reach maturity without constant irrigation from the private well. Here the cultivator is the loser, for if his land had been properly irrigated from the channel he might have invested his capital in sinking the well on unirrigated land elsewhere, or otherwise have utilized it. In other cases, as the channel supply is insufficient to raise rice, an inferior grain (*ragi*, *cholam*, &c.) with smaller yield is grown instead. Sometimes the full tax is levied on such land, and sometimes a reduction is made. Loss thus ensues certainly to the cultivator and often to the Government.

"In other cases again, lands which would be irrigated if the channel water were properly economized have been left without irrigation for so long that they are transferred in the public accounts to the head of unirrigated, and only the tax for unirrigated land is charged against them. Here both the cultivator and the Government are permanent losers. There are two fine channels fed by the Bhavâni river, which irrigated at the beginning of the century 16,000 acres. Of this area 500 acres have been permanently transferred to "unirrigated" and a revenue of Rs. 1,400 (£140) per annum is lost to the State. Both of these channels receive a supply of water amply sufficient for all needs, and calculations regarding the larger one show it to be capable of irrigating 12,000 acres more than the area it now supplies, which is 12,700 acres."

This account applies to the district generally; streams capable of watering 20 and 30 acres flow night and day to 2 and 3 acres even at the head of the Kalingarâyan.

(3.) They are dangerous, leading to numerous breaches; in a recent rain storm seventeen breaches occurred, nearly all from this cause, in the first seven miles of the Kalingarâyan. In this important channel, even at the head there are numerous sluices which are mere tunnels built of rough stone in mud traversing a very large and high bank with a considerable head; some are mere palmyra troughs; several of the above breaches were at sluices of these descriptions. Some of the large masonry sluices are of rough workmanship, and an extra head thrusts the covering stones up and causes a leak into the bank.

(4.) They are absolutely without means of closure. Even the masonry sluices have no closing apparatus and are shut, if shut at all, by the nirganti (official distributor) getting down into water sometimes four or five feet deep, and blocking up the mouth with mud; this he objects to do, and therefore avoids doing if possible, and if he does it, the ryot need only push a stick down to clear it at once. But many of the sluices are mere cuts in the bank which run in great streams day and night; it is common to meet a gang of ryots from a lower village hastening with mamoties to the upper villages to block up the so-called sluices which drain off the *whole* water; cf. the Pallapálaiyam channel in Karúr taluk, where the two lower villages, comprising above 2,000 acres of wet land, can get no water if the numerous cuts above are all open.

To sum up, masonry sluices, placed only where necessary, with stone-ware* pipe tunnels nicely calculated to give the proper discharge, and closable from the top of the bank by a screw provided with a lock, are essentially required. Whether with such means of regulation it might not be made possible to sell water by the cubic yard, as in the north, is a question; probably it would be better so to arrange the sluices that little waste could take place, and leave assessment as it is, viz., upon the area.*

Baling from the natural bank of channels, though common, is not universal; this economical mode of using water should be encouraged. The quantity of water used is strictly limited by the ryot's wants, since he has to lift it; much of it drains back into the channel; the ground slopes to the channel and is therefore porous and fit for any crop, while the lift is so small as to render the crop less costly¹⁰ than when watered from a well, even allowing for the water rate. Except where the banks are very high, as along parts of the Cauvery, Amarávati and Noyil, this mode of irrigation is practised along rivers as well as channels. It may be economically developed by permitting the construction of pipe culverts along a cut in the soil to pits whence the water may be baled to high grounds; there are isolated instances of a long open cut, by which means fields that three years ago were

* Stone-ware pipes would not only enable the sluices to be regulated with nicety, but as they could be made small there would be no great waste of water even if not closed; moreover the present practice of forcibly enlarging with crowbars the regulating orifice of a built sluice would be useless, since the whole length of the pipe, and not merely the mouth, would regulate the supply; there would also be much less danger of leakage; most of the breaches now occur from a strong head of water forcing up the covering stones of the present large and rude culverts and escaping into the earthen bank.

* Under the head of "Irrigation" in the Taluk Notices will be found some further details; the Kalingariyan extension is more fully discussed in the Erode notice.

¹⁰ The Settlement Deputy Director in his report on Erode states that in baling from the Kalingariyan channel "the cultivation is precarious" and the "lift of water as difficult and costly as in wells." The channel however flows steadily for ten months, and the lift is 5 to 15 feet instead of 20 to 40; the crops are splendid and the land hardly to be bought at any price.

dry uplands producing crops worth Rs. 10 per acre, are now gardens growing turmeric worth Rs. 150 per acre. The open cut is, however, comparatively wasteful.

PRIVATE IRRIGATION.—There are few private tanks and only one private channel (Udamalpet) in the district; they require no special note (*vide* Taluk Notices).

But the most important irrigation in the district is private, viz., that from wells. Special returns have been prepared during the past two years and carefully checked in the field and at jamabandi with the result noted below.

The area actually irrigated is about two and a-half times that irrigated from Government works; in all ordinary seasons they give an unfailing supply; in bad seasons indeed, especially when the heavy rains of the north-east monsoon fail, the worst wells go dry, but even in the famine of 1877-78 the majority of wells held out and yielded their owners splendid returns. Mr. Clogstoun remarks that they are "the chief mainstay of the revenue," which is true, but they are still more the chief mainstay of the ryot. Every officer, from Macleod onwards, has added his testimony to the vital importance of the wells in this district as enabling the ryot to grow "two certain crops instead of one precarious one, which is all he can expect when he depends upon the falling rain for his cultivation" in a district "where a failure in the rains is a misfortune of frequent occurrence" (J. Sullivan, 1828); Mr. E. B. Thomas (1857) speaks of them as "the heart and life of the district" (Jamabandi Report, Fasli 1266).

Wells in dry lands (gardens).

Wells in dry lands (gardens).																						
Government lands.												Inam lands.										
Taluka.	Good wells.			Latta.	Lands under good wells.		Actual acres irrigated.	Wells in need of repair.	Acres under repair.	Good wells.			Latta.	Lands under good wells.		Actual acres irrigated.	Wells in need of repair.	Acres under repair.	Total.			
	In use.	Not in use.	Total.		In use.	Not in use.				Total.	Acres.	Assess-ment.		In use.	Not in use.					Total.	Acres.	Assess-ment.
Bharuval ..	3,241	417	3,658	4,626	22,366	na.	10,931	430	2,568													
Coimbatore ..	4,714	617	5,331	7,291	22,847	22,508	23,320	1,208	5,680	266	44	440	715	2,441	3,090	2,514	69	267				
Dharmapuram ..	5,900	710	6,610	11,061	72,009	68,710	41,856	2,774	20,840	970	113	1,083	1,293	12,464	12,379	4,629	403	4,083				
Erode ..	9,996	1,689	11,685	13,435	56,442	72,083	35,494	3,980	19,556	575	132	708	818	6,038	7,319	2,250	251	1,040				
Karur ..	6,980	740	7,724	7,600	30,489	28,686	17,433	1,650	8,385	511	72	583	642	3,692	3,336	1,496	194	1,458				
Kollegal ..	48	2	50	57	403	362	53	34	327				Figures not obtained.									
Palladam ..	8,616	1,193	9,808	16,618	69,789	1,01,073	47,869	3,312	17,632	815	129	944	1,366	6,973	9,086	4,526	423	2,879				
Pollachi ..	3,704	520	4,223	5,001	20,286	32,729	14,832	1,011	7,569	75	11	86	95	1,001	1,025	280	18	102				
Satyansangalam.	4,170	983	5,153	6,379	30,320	38,241	18,088	1,305	4,028	220	68	294	375	1,922	2,343	1,102	86	522				
Udumalpet ..	2,800	314	3,114	4,487	35,070	37,137	23,009	928	6,948	200	34	234	327	1,869	3,096	1,032	78	950				
Total ...	51,277	7,118	58,395	75,384	366,295	4,36,784	232,011	16,401	26,334	2,769	603	4,372	5,396	41,400	42,874	19,364	1,521	11,973				

Figures not obtained.

The following table shows by taluks, exclusive of Kollegal, the area, as per settlement, of occupied Government "dry" lands, that of similar lands actually irrigated by wells, and the ratio of the latter to the former. The former figures include the latter :—

Talak.	Occupied Government dry area in acres.	Area actually irrigated by wells, in acres.	Percentage ratio, col. 3 to col. 2.
1	2	3	4
Bhavani	120,072	10,631	9.1
Coimbatore	230,858	23,220	9.8
Dhârâputnam	382,319	41,856	10.9
Erode	293,768	35,494	12.0
Karûr	257,872	17,433	6.7
Palladam	368,811	47,889	13.0
Pollâchi	201,173	14,838	7.3
Satyamangalam	172,703	16,088	10.4
Udumalpet	166,243	23,000	13.9
District	2,192,761	232,568	10.6

Of the above taluks, Pollâchi and Karûr have the highest rainfall; the large comparative area in Udumalpet is due to the fact that each well there irrigates a larger area, probably because the soil is chiefly black cotton.

A great deal of useful information is obtainable from these tables, which have been prepared with as much accuracy as possible, the accounts having been compiled during Fasli 1290 and 1291 and checked both at the jamabandis and in the field. The wells in pâlaiyapats are not included, but probably number about 2,000; there are also a few wells unrecorded as will be seen. The tables show a grand total of all wells in good order of 64,985, besides 18,194 not in repair. Of the 64,985 wells in good order 2,218 are in wet lands; these are almost solely in tank-fed lands and are used to supplement the precarious and scanty tank supply; *e.g.*, at Pattûrpallapâlaiyam in Erode the tank seldom gets even a half supply, yet splendid crops of sugarcane, &c., are largely grown by means of the wells in the fields, in which the lift is low and the water-supply abundant. The remaining 62,767 wells are not all in use though in good order and with usually a good supply of water; of the 7,721 not in use some represent those at a distance from villages, so that their owners do not care, or are unable, to use them, and many represent ancient wells abandoned for new ones between 1854 and 1864, when the garden assessment was retained on old wells but not imposed on new ones. The 55,046 wells in use are the wells which irrigate the well-known Coimbatore "gardens," or dry fields watered from wells; these are indeed the mainstay of the district. They possess about 75,000 lifts in actual use and actually irrigate 251,275 acres (approximately). Much of this area is cropped twice

and even three times in the year, especially near towns, but a large proportion is only cropped once per annum, the irrigable area being cultivated half for one crop and half for another. There is no possible rule; each ryot cultivates according to his means, his energy, his cattle, his manure, the amount of water in his well, the nature of his soil, and his market. The area has been ascertained by approximate measurements and estimates, and is as near as can be got without a regular survey. It will be seen that the area "actually irrigated" is much below that of the fields "under the wells;" a well can usually irrigate only three or four acres, while the average field is about six acres; all that is meant by "under the wells" is the area of the fields containing the wells, of which much is wholly unirrigable both by reason of level, extent, soil, &c. Hence it is not to be inferred that much of the garden land is left uncultivated, but merely that, of the total area of the dry fields containing the wells, only part is actually irrigable and cultivable as garden. Hence in Dhárápúram, where the fields are large, the land "under the wells" is in unduly large proportion to the area actually irrigable.

It will be observed that whereas the district average is about $4\frac{1}{2}$ acres actually irrigated per well in use, the area in Karúr is less than 3 acres, in Bhaváni and Erode about 3 acres, whereas in Udamalpet the irrigable area per well is about 8 acres, in Palladam $5\frac{1}{2}$ acres, and in Coimbatore 5 acres. In the former three taluks the subsoil is more rocky, the surface poor and gravelly, and water less abundant, while in Bhaváni markets are somewhat distant; in Udamalpet, Palladam and Coimbatore there is a large area of splendid black and red soils, while there are excellent markets, especially in Coimbatore; it is clear that the black soil and deep red loams being retentive of water, can get on with a much smaller supply.

Wells have from one to three lifts according to size and water-supply. The figures for inam wet lands in Satyamangalam appear doubtful. The 18,194 wells not in repair are those abandoned from time to time for failure of springs, for unsuitability or exhaustion of soil, by reason of poverty, by coming upon rock, and as a result of the change of assessment in 1854 adverted to above.

These wells are of all depths and sizes, costing from Rs. 150 to 600 according to size, depth, nature of the soil, &c. In good situations they will run over in a heavy monsoon, others seldom get more than a few feet of water. They are sunk into the gneiss, and the subsoil looks most unpromising for water, which, however, finds its way through fissures nearly as fast as it can be drawn off. In 1800 there were between 18,000 and 22,000 wells; the increase up to 1852, when they numbered 35,107, was steady but slow, as garden rates, say Rs. 4 per acre, were charged up to that time; when the principle was then laid down that no such restriction should be placed upon private enterprise, wells rapidly increased, as shown in the above table, in spite of the fact that the best

situations had already been taken up. There is now absolutely no restriction; gardens pay only ordinary dry rates, and even if wells should lapse to Government, as in the famine, no charge whatever is made for them or for the land, beyond the ordinary dry rate, to a ryot who takes up the field.

Thousands of sites for wells are still available, but this is rather because of the distance of such sites from the village than from ignorance or want of capital. Excellent wells may even be seen full of water, but not used for irrigation because they are far from the village, and garden crops need watching. As the homestead practice progresses, these sites will be utilized. In view of the fact that wells after costing a good deal are sometimes abandoned because of the interposition of impenetrable rock, it has been suggested by Messrs. J. Sullivan (1829), J. Thomas (1831), Robertson (1875), that boring tools should be supplied to each taluk for the use of the ryot, or that a Government party should travel about, bore in all likely spots, and record in the accounts and maps the depth and particulars of reaching water. It is however to be noted that the subsoil is so very hard that an auger has no chance, and that the use of the chisel and other apparatus for hard soils involves great expense, while the rods are apt to get jammed and be inextricable, as recently in Coimbatore. Wudders can be employed to sink a small trial well for less than a bore hole would in most cases cost, and a Government party of Wudders would probably be of service. The ryots themselves could easily do this if they liked, but they seem to trust to luck, and sometimes to divination by pouring water on a sheep's head and noting the place where she shakes herself. Practically the ryot trusts to observation and good luck more than to divination, and it is certain that the divination, if practised, only concerns the particular spot in a part of a field, for wells are invariably sunk in such positions as to obtain a good supply of water consistent with watering the best part of the field; ryots are sharp enough in this matter.

The invariable water-lift is the single-bucket cattle-lift (*yéttam*), the *pacottah* or basket only being used for shallow lifts from channels or pools. Regarding lifts Mr. Robertson has expressed a strong opinion in favor of his special whim-lift, observing that by its adoption a saving might be effected equal to the whole revenue paid to Government, or say 20 lakhs per annum. If such a splendid saving be possible it is to be regretted that district practice and opinion are opposed to this lift; it is however generally considered that there would be no gain by its adoption. The ryot uses the small power at his disposal in apparently the best possible way, viz., by applying the weight of his cattle running down an incline direct to the bucket without the intervention of any machine save a simple pulley. If, however, but one-tenth of this sum or 2 lakhs per annum could be saved, it would repay the State tenfold every year to employ a party to inculcate and prove its economy, by

experiments at ryots' own wells 'side by side with their own lifts. It is noteworthy that the richer ryots and gentlemen who daily see these lifts at work decline to adopt them even though they may approve of them officially.

For agricultural practice in gardens see "Agriculture," and for a review of revenue practice see "Revenue History."

CHAPTER XIV.

THE FORESTS OF COIMBATORE.

(Contributed by A. W. PEET, Esq., Deputy Conservator of Forests).

Divisions.—Classification.—Northern Division.—Topography.—Products.—Hill Ranges.—Rivers.—Jungle Tribes.—Southern Division.—Coimbatore Taluk.—Sources of the Noyil and Bhavani.—The Anaimalais.—Description.—Products.—Conservancy.—Leased Forests.—Minor Produce.—Hill Tribes.

THE forests of this district are extensive and varied. The chief forest taluks are Bhavani, Kollegal, Satyamangalam, Pollachi, and Udamalpet; but for purposes of forest administration the whole district is now divided into two divisions—the northern, embracing the extent of the revenue charges of the Sub-Collector and Northern Deputy Collector; and the southern, the charges of the Collector and his assistants.

The North Coimbatore forest division consists, therefore, of the taluks of—

Bhavani,	Erode,
Kollegal,	Karur,
Satyamangalam,	Dharapuram,

and the South Coimbatore forest division of—

Coimbatore,	Pollachi,
Palladam,	Udamalpet.

It would tend to no useful result to enumerate the various schemes of organization previously attempted, or to give in detail the history of the forest management of the district from the formation of the department; a tabular statement is, however, appended, giving the details of revenue and charges under the various sub-divisions of the Coimbatore forests from the year 1856.

Under the reorganization of the Madras Forest Department, which resulted from the suggestions made by Dr. Brandis, Inspector-General of the Forests of India, in 1882, the forest and jungle conservancy organizations were amalgamated; the whole Presidency was divided into northern and southern divisions, each under a Conservator, the working control of each district being vested in the Collector, to whom the chief forest officer of the district, or division of a district, was to act as an assistant for forest matters, under the title of District Forest officer. Each of the divisions of the Coimbatore district is under a separate District Forest officer.

A tabular statement is entered giving the details of the establishments sanctioned for both divisions for the year 1885-86, which will to some extent explain the present scale of work.

Under the present system the scheme to be worked out in Coimbatore is the following :—

Forests are to be divided into—

Reserved forests.

Unreserved do.

Reserved lands.

Reserved forests are proclaimed by a notification in the *Port St. George Gazette*, after all rights have been recorded and claims decided by a Forest Settlement officer. Duly proclaimed reserved forests are to be under the exclusive control of the District Forest officer, as representing the Collector in the forest branch.

Unreserved forests are to be worked under rules published by the Board of Revenue, the chief points of which are that special rules are to be published for each district, giving lists of trees as divided into—

Reserved trees,

Classified do., and

Unclassified trees,

and prescribing seigniorage rates for the various products of the forests. The rules are given below.

Reserved forests will eventually be worked departmentally as far as possible, as opposed to the system of working by seigniorage; the essence of the latter system being that each individual purchaser fells and removes by his own labor the produce for which he pays seigniorage or royalty.

Reserved lands require a word of explanation. This term was used in the original draft of the Forest Act, but was struck out. It is, however, a convenient phrase for a descriptive purpose, and has been maintained in official correspondence to signify such lands, whether assessed or unassessed, as are set apart by Government for the purpose of fodder and fuel reserves. This term applies chiefly to taluks other than strictly forest taluks, where cultivation is held to have reached or approached its maximum.

Proposals are now being made taluk by taluk, defining blocks of both assessed and unassessed waste, which it is proposed to reserve. If these proposals are sanctioned, it is intended to take up at first only a small proportion of the reserves, letting out the rest for cultivation on lease.

The blocks taken up are to be fenced, and the results carefully noted.

NORTH COIMBATORE FORESTS.—The afforested parts of Kollegal, Satyamangalam, and Bhavani taluks are chiefly hill tracts, having an extent of more than half the total area of those taluks. They may

be said to be a continuation, albeit very irregular and broken, of the Mysore plateau. In order to reach the western portion of the Satyamangalam forests the Gazelhutty ghât has to be ascended, a steep stony pass leading up to Taleimalei from the valley of the Moyar. Going eastwards, the next ghât road is that leading by an ascent six-and-a-half miles long from a point ten miles north-west from Satyamangalam town, the head of the ghât being called Dimbum. This ghât road is practicable for carts. After reaching Dimbum the road descends to Hassanûr, where it bifurcates, one branch going through the Punjur or Pulinjur valley, after which point the road goes through Mysore territory, till it strikes the Kollegál taluk, a few miles from Kollegál town. This road is the main road to Kollegál. The other bifurcation from Hassanûr goes through a long tract of forest, through Geddasil, Bailûr, and Lokanhalli to Kollegál. This road, although entirely in Coimbatore territory, is not much frequented, as the alternative road is at an easier gradient and does not run through forest. Consequently the road is kept up only partially. Eastwards from the Dimbum ghât road, the next ascent from the plains is a stony track west of Kumbatarine hill; the next is another track up the valley above Chellipolliem; then comes another up the valley above Kongarapolliem. Going eastwards again, there are various small tracks to the hills in the Bhavâni taluk, and then comes the Burgoor ghât road. This road was traced some years ago at a great expense, but it is at present a good deal out of repair. This road traverses the Burgoor hills and joins a road leading to Kollegál at Martalli.

To the east of the Burgoor ghât road there are only a few stony tracks up to the hills.

The south-west portion of the Satyamangalam forests is a tract known as the eastern slopes of the Nilgiris.

This tract is under settlement as a reserved forest. It is bounded by the taluk limits on the eastern crest of the Nilgiris, and by the Moyar and Bhavâni rivers. In the upper portion there are some coffee estates, and in the lower some villages, which have been excluded. There are one or two important streams in this forest which flow into the Bhavâni and Moyar, and the forest growth on the slopes is maintained chiefly for climatic reasons. Vast numbers of cattle are collected during the drier months of the year from the non-forest taluks, and it is contemplated to restrict cattle-grazing only in small portions of this tract, and with extreme caution; as this, in common with the greater part of the North Coimbatore forests, is at present valuable chiefly as a huge grazing ground.

The country above the Gazelhutty ghât, before mentioned, consists of a tract of forest much interspersed with hill villages. This is one of the chief sandalwood tracts, for this tree is found as a rule in the neighbourhood of villages. The extreme west of this part of the taluk is largely cultivated, and bears only a little scrub jungle on the hills.

To the east of the sandalwood tract lie a succession of hills covered by open forest, of no particularly large timber; but containing some teak (*Tectona grandis*), sal (*Shorea* (?)), acha (*Hardwickia binata*), átti (*Bauhinia racemosa*), kaddukkáy (*Terminalia chebula*), matti (*Terminalia tomentosa*), vallai nága (*Anogeissus latifolia*), vengei (*Pterocarpus marsupium*), karungali (*Acacia sundra*), unjei (*Albizia amara*), kar-kattam (*Zizyphus glabrata*), satinwood (*Chloroxylon swietenia*), and other trees.

These hills are also much used as a grazing-ground.

Sandalwood appears again in large quantities about the village of Hassanúr, which lies in a basin to the east of these hills; and this tree is found along the whole of the Pulinjur valley.

The forest in the Pulinjur valley is of much larger growth than that on the hills, and a large trade is carried on by Mysore merchants in bamboos and timber from this part of the forest.

The tract to the east of Dimbum is peculiar. It consists of a high plateau known as the Malakkád, and is much interspersed with hill villages inhabited by Badagas, who have emigrated at various times from the Nilgiris. The average height of this plateau is over 4,000 feet, and here sandalwood is found in abundance, though the elevation is rather high for this growth.

From Hassanúr the road ascends a ghât to Geddasil. Sandalwood entirely disappears from the forest a short distance from the foot of the ghât, the general forest growth being similar to that on the hills above described.

About Geddasil for some distance is found a tract of really fine forest, good specimens of blackwood (*Dalbergia latifolia*) growing among the other trees mentioned. Along the margin of the streams mango trees grow to a large size, showing a certain amount of moisture in the subsoil. After leaving Geddasil the general character of the forest over the hills is open, and the trees are for the most part small and stunted; and with the exception of the tract along the foot of the Billigirirungun hills to the west, and the slopes of some of the higher ranges on the east, this open, stunted growth is the general characteristic of the North Coimbatore forests.

The whole forest tract is more or less interspersed with villages, and is at present grazed over. On the eastern slopes the chief wood is acha (*Hardwickia binata*), which attains considerable size; teak as a rule is not of first-class dimensions.

Sandalwood is found more or less in the neighbourhood of all the hill villages, particularly about that part of the Satyamaungalam taluk of which Elkkatúr is the centre; that part of Kollegál of which Pursa-goundenpolliem is the centre; and on the Ponasamalai and Mádaí-swaramalai; and in Bhaváni on the Burgoor and Katrimalai.

The chief *hill ranges* are—

- (1) The Billigiriranguns.—These hills run in a general direction north and south for nearly forty miles, between the Kollegal taluk and Mysore. Formerly the greater part of these hills was held to be British property; but after a succession of disputes the greater part has now lapsed to Mysore. This is a fine range, having evergreen forest on the higher slopes, and valuable deciduous forest on the lower.
- (2) The range next in importance is Ponazamalai to the north-east of Kollegal taluk.
- (3) South of the above range lies Madaiswaramalai, known far and wide as the scene of enormous annual cattle-fairs. These gatherings are supposed to have had a religious origin, and religious ceremonies form part of the annual programme; but in reality they are now cattle marts. Cattle are carefully bred on both these hill tracts, and form the greater part of the wealth of the ryots, who grow only moderate crops of ragi for their support.
- (4) To the south of Madaiswara lie the hills known as Katrimalai.
- (5) To the south of these lie the Burgoor hills; both of these ranges are in the Bhavani taluk, and are imposing blocks.
- (6) To the east of the taluk lies the Palamalai range, parallel with the Cauvery river.
- (7) In the Satyamangalam taluk the chief ranges are Kumbatarine, Vellancumbay, and the eastern slopes of the Nilgiris.

The chief rivers connected with the forest tracts are—

- (1) The Cauvery.—This river forms the northern and eastern boundary of the afforested taluks, but the feeders derived from the forests are insignificant as might be expected from the open character of the growth.

The main affluents are the Goondalam, which flows from the north of the Billigiriranguns and falls into the Cauvery in three or four insignificant channels, a few miles from Kollegal town. The chief drainage of this taluk is from a number of streams rising on the eastern slopes of the Billigiriranguns and flowing northwards, the combined river being known as the Uduthornipallam.

The Palár, known also from its windings as the Ombadunagampallam, is a considerable torrent during the rains. For a distance of twenty-five miles it forms the boundary between the Kollegal and Bhavani taluks. It is fed partly from the hills of the Satyamangalam taluk about Gairimalai, Gahjenur, and Ugiyam, and partly from the Burgoor hills and the Katrimalai hills of the Bhavani taluk.

The headwaters of a considerable stream, the Honhallay (or gold stream), which flows a few miles from Kollegal town, lie in the western

part of the Satyamangalam forest tract; but the greater part of the course of this stream is in Mysore.

A few streams run eastwards into the Cauvery from the various hills of Kollegal and Bhavani, and a few run south into the Bhavani river from the hills of Bhavani and Satyamangalam taluks.

On the whole, however, it may be stated that the water-supply from the North Coimbatore forests is inconsiderable, owing to the fact that the proportion of evergreen forest is very small.

(2) The Bhavani and Moyar rivers are most important; but, with the exception of a few considerable feeders from the Nilgiri slopes, the greater part of their water-supply is obtained from forests outside the district.

Jungle tribes.—In North Coimbatore the jungle tribes are represented very scantily in the persons of a few scattered *Sholagars*.

These Sholagars are for the most part now merely serfs under the control of the more wealthy ryots, and are employed by them as cattle-grazers and as cultivators. They rise, however, whenever possible, into semi-independence, and like all jungle tribes carry on a desultory and wasteful cultivation when permitted, by clearing fresh forest year by year.

They are a peaceable and harmless race, not much addicted to sport, but making keen trackers on occasion. Unlike the jungle tribe of Wynnad, the Coorumbars, they will not eat the flesh of the bison (*Bes gaurus*); but they eat the flesh of all other game.

They are fairly expert with the axe when trained, but it is not, as with the Bet Coorumbars, their implement *par excellence*, nor do they manufacture their own iron tools. When left to themselves they select by preference a tract where falling on a large scale is not necessary.

They are much addicted to smoking hemp, and occasionally to opium-eating.

Game.—Among the objects of chase, in its wide acceptation, are elephants, bison, sambur, spotted deer, antelope, four-horned antelope, nilghai, barking deer, wild pig, tiger, panther, pard, hunting leopard (shot near the junction of the Moyar and Bhavani rivers and near Bandhelli in Kollegal), bear, wild dog, wolf, jackal, fox, otter, hare; and among birds bustard (rare), floriken, pea-fowl, jungle-fowl, spur-fowl, painted spur-fowl, partridge, painted partridge, quail, rock grouse, duck, teal, woodcock, snipe.

SOUTH COIMBATORE FORESTS.—In Palladam taluk there are no forests proper, but certain tracts have been taken up as fodder and fuel reserves.

In Coimbatore taluk the chief forests lie in the valley of the Bhavani river, at the foot of the Nilgiris; and about the hill range to the south of the Nilgiris, known as Kuradimallai, or the Lambton's peak range; and about the hills which border the Bolampatti valley to the west of Coimbatore town.

These forests are not as a whole productive of first-class timber; there are, however, very fine blackwood (*Dalbergia latifolia*), vengai (*Pterocarpus marsupium*), and a few other good timber trees at the head of the Bolampatti valley; and there is fair forest on the southern slopes of the hills, facing the Walliar railway station. At the foot of the hills at this place there is a small reserve, called the Sholakarai reserve, which has been experimented on for some years with fair success. The Malabar reserves, which adjoin the Sholakarai reserve, show a growth even more favorable, as they lie more to the west and get a slightly better rainfall.

The preservation of the headwaters of the Nôyil river, which flows past Coimbatore town, has excited much local interest. The Bolampatti valley through which it flows was formerly a forest, and when Ward and Connor wrote (about 1820) was still in that condition. Year after year, however, cultivation has extended in this direction, and now all that can be done is to preserve the forest on the slopes of the hills, and a small portion left at the head of the valley. The hills are unfortunately very steep towards Coimbatore, so that the catchment area is small.

On the other side of these hills there is a wonderful tract of country forming the headwaters of the Bhavâni river. The catchment area here is very open and favorable for receiving a large supply of water, and the dense forest which still exists to a great extent is well calculated to preserve the springs. Unfortunately the whole of this tract has been included in Malabar, though geographically part of Coimbatore; and a late decision has declared the larger part of it to be private property, so that within a measurable distance the water-supply of the Bhavâni river may be seriously affected by the denudation of this huge tract, misnamed the Attapâdi valley.

The most important part of the South Coimbatore forests lies to the south of the Pollâchi and Udampet taluks, on the Ânsimalais, or Elephant hills. These hills form merely a portion of a huge range which runs through Travancore, is barely separated from the Palneys, and joins the Western Ghâts.

The Ânsimalais lie between lat. $10^{\circ} 14'$ to lat. $10^{\circ} 32' N.$, and long. $76^{\circ} 53'$ to $77^{\circ} 23' E.$ They are bounded on the west by Malabar and Cochin hills, south by Travancore hills, and east by Madura.

The main range has a direction from south-east to north-west. There is a secondary range eastward, separated by the Toracadavu valley; and to the eastwards again the hills become lower and the conformation more broken.

The chief rivers running west are the Vadamallaiyâr, the Sholayâr, the Pâlacadavu stream, and the Toracadavu stream, which all flow into Cochin rivers.

The Toracadavu stream divides the main and secondary ridges of the Ânsimalais, and flows under another name past Ânsimalai village.

Below Ánaimalai this river is joined by the Pálár, which rises on the eastern slopes of the secondary ridge.

The united streams fall into the Ponáni river, which drains part of Malabar.

The Amarávati river is of the greatest importance. The headwaters of this river are in the Anjenád valley, which formerly belonged and geographically should belong to Madras, but is now in Travancore. There are clearings for coffee in this valley. From the Ánaimalais proper there are important feeders of the Amarávati river.

The Ánaimalais are often roughly divided into the upper and lower ranges.

The upper ranges have plateaux over 7,000 feet in height, and peaks over 8,000. These upper plateaux, and those connected with them in Travancore (which are really connected by natural conditions), have been estimated to contain an area of between 80 and 100 square miles. They are separated into blocks, and contain the most magnificent scenery. This very separation of one plateau from another by mighty chasms adds distinctive features to the view; while the contrast of rolling downs with dark evergreen forest gives a variety unknown on the Nilgiris.

These upper ranges contain undoubtedly much valuable timber; but it is so extremely difficult to work timber out that the evergreen forest must be considered chiefly as a permanent cover for the headwaters of the various streams; and as a ground for supplying such products as turmeric, ginger, and cardamoms.

The upper ranges may be said to be virtually uninhabited.

However grand these upper ranges may be, and however suitable for European habitation, the lower ranges will be always more important from a forest point of view. These contain the well-known teak belt. This belt lies at an altitude of from 1,500 to 3,000 feet, and formerly contained a most extraordinary growth. In a few inaccessible sites examples are still seen of the wonderful size which teak attained on these hills; the best example being a tract near the Pálacádu river.

When engaged on the trigonometrical survey (about 1820), Ward and Connor mention that the growth of teak on these hills in general far surpassed anything they had seen elsewhere.

Captain F. C. Cotton of the Public Works Department was the first to suggest a systematic working of the Ánaimalai forest in 1847.

Previously to this date a large supply of timber had been sent for the use of the Bombay dockyard, both from the Walliar forests, and from such parts of the Ánaimalais as were claimed by Cochin and Malabar. Timber was at this time worked out in the most wasteful manner by contractors; and it was in consequence of the very graphic

account given by Captain Cotton of the facts he had actually noted, of a loss sometimes of five-sixths of a tree, that the Board of Revenue suggested that a European officer should be put in charge.

In 1848 Captain Cotton was ordered to report "on the present condition of the Ánaimalai forests, and the best mode of working them."

He did so in a long report, stating that there were large trees available in great numbers; he advocated girdling them, and using the saw as much as possible for converting them into planks.

As a matter of fact, however, the old system of splitting the trees with wedges and trimming planks with the axe seems to have been resorted to in great measure, owing to the difficulty of obtaining sawyers.

Captain Cotton's proposals do not altogether savour of strict conservancy. His main idea seems to have been to utilize what was considered the almost unlimited wealth of the forest to the best advantage and with the least loss of material.

The idea of the enormous resources of these forests is thus expressed by the Collector of Coimbatore in 1846:—"The teak forests of this district are immense, and will admit of the supply of timber, *to any extent*, of good and unexceptionable quality."

Captain Cotton's theory was that teak cannot grow where teak has grown before, but that a rotation of crop was necessary; but how this rotation was to be effected he does not attempt to state.¹

In June 1848 Lieutenant Michael was appointed Captain Cotton's assistant, and he and Lieutenant Douglas Hamilton continued in charge till the Madras Forest Department was formed under Dr. Cleghorn.

Although conservancy was, of course, to some considerable extent carried on during the European control from 1848, yet it was practically admitted some years ago that the forests had been overworked and all felling operations were suspended for some years. That this precaution was advisable is seen from the scarcity of teak of large dimensions; and the want of systematic treatment under regular working plans is seen from the fact that a regular gradation of ages in the growing stock is not established. Working plans are now being made out.

The question of roads was early insisted on by Captain Cotton, and Lieutenant Michael began a system which his successors perfected. Some of these roads have naturally fallen out of repair while the forest was not worked.

Elephants were much used in dragging timber, which was in most cases shot down a slip and carted from the foot of the hills to a con-

¹ There may be something in this theory, supposing teak to be an unmixed crop, but such it never is in the forests. It may be quite possible that unmixed plantations of teak, such as those at Nilambúr, will be found to deteriorate after one crop has been taken from the soil. In fact this contingency is always to be considered; as witness the evils incident to a young regrowth of Scots' fir, or the deterioration of the larch at Athol.

venient point on the Ponáni river, generally to Mungarah, whence it was floated to the West Coast for shipment to Bombay.

The timber slip was not perfect, and an attempt was made some years ago by a forest officer to cover the face with a lattice work of bamboos. This worked fairly, but a regular trestle and cordway slip would probably be preferable, if a slip is wanted at all.

An area of some forty square miles of good teak forest is leased from the Numbidy of Collengode, a Malabar proprietor.

This lease was made in 1867 and runs for ninety-nine years. The terms of the lease were that stump fees of various values should be paid for certain classes of trees. The lease is under alteration, so it would be useless to specify the exact terms.

A glance at the receipts from the Ánaimalai range, and lately from the South Coimbatore division, will show how valuable these teak forests have been, since the greater part of these receipts was from the sale of teak.

As teak has been dealt with in these forests almost exclusively, no mention has been made of other timber; but there are most of the timbers usually found in deciduous forests of a similar elevation, notably blackwood (*Dalbergia latifolia*), vengei (*Pterocarpus marsupium*), vellai nága (*Anogeissus latifolia*), karamatti (*Terminalia tomentosa*), ventek (*Lagerstrœmia microcarpa*), various *Acacias* and *Albizzias*, *Gmelina arborea*, *Vitex altissima*, and many other valuable timber trees.

The revenue from minor forest produce has always been rather a bone of contention and has never been very large. Even so early as Captain Michael's time, the question of allowing the regular hill-men a certain right to the produce was mooted, and an attempt was made to get them out of the hands of petty contractors. Lately this theory has been developed, and a principle adopted some years ago seemed to work well of allowing only certain licensed contractors into the forests, who were bound to pay not less than a fixed minimum price for each article of produce. On the other hand the hill-men were bound to sell the produce only to these licensed contractors.

The chief minor produce on the Ánaimalais consists of cardamoms (*Elettaria cardamomum*), turmeric (*Curcuma longa*), other species of curcuma, honey and wax, soap-nuts (*Sapindus emarginatus*), soap-bean (*Acacia concinna*), myrabolams (*Terminalia chebula* and *belerica*), and numerous other fruits.

The hill-tribes of the Ánaimalais consist chiefly of—

Mudavars.	|	Malasara.
Puliyars.	|	Kádars.

The Kádars live chiefly in the lower ranges, but go to the higher ranges for the collection of minor forest produce. They are thought by some to be of an African type, but it is more probable that their type

is allied to that of the aboriginal tribes of Australia. An example of people of true African descent is seen in the Punniah of the West Coast, but the Kádars differ extremely from this race. True the Kádars have flat noses, slightly thicker lips than many hill-tribes and woolly hair in some cases; but the aboriginal Coorumbars of Wynnad have all these characteristics and yet their type is distinctly non-African. More or less woolly hair is common to many forest and hill tribes, but the true African prognathous jaw is absent.

The Kádars are not African in their build; they are not massive and large-limbed, though of course their form might become modified by circumstances. They are, as a rule, rather short in stature and deep-chested like most mountaineers; and like many true mountaineers they rarely walk with a straight leg, hence their thigh muscles are often abnormally developed at the expense of those of the calf; hence, too, in part their dislike to walking long distances on level ground, though the objection mentioned by Colonel Douglas Hamilton to their carrying loads in the plains is deeper-rooted than that arising from mere physical disability. This objection is mainly because they are rather a timid race, and never feel safe out of their forests. They have also often affirmed that the low country air is very trying to them.

On marriage the men have their front teeth filed to points.

They are not hunters in their primitive state; in fact they have not even the practice of setting snares. However, on occasion, they show themselves good trackers, and a few have developed into keen hunters.

Left to themselves they cultivate small patches of grain, but live chiefly by the sums which they may receive for the sale of minor produce, and on roots which form their regular diet. However, great activity is shown at one period of the year when the fruit of the cycas is ripe. The cycas family (Cycadææ) is very peculiar, being so like a palm in general aspect that it was formerly classed among the monocotyledons, being placed either near the palm, or tree-ferns. However, it is a true dicotyledon; and its fruit forms a very considerable addition to the resources of the Kádars. The fruit is supposed to be more or less poisonous in its raw state, but when cooked and reduced to powder it is evidently quite edible. In this state it resembles coarse flour, and is eaten by all Kádars.

The cycas is found in great abundance on the Lower Anaimalais.

As a race, Kádars are not much given to excess in drinking, but most of them take opium; and a regular opium-eater cannot do a long day's work without it.

They are fond of dogs, chiefly as a protection from wild beasts at night; for a Kádar on the tramp never takes the trouble to make more than a lean-to to shelter himself and his family; and the hill dog is a great accession in such a primitive dwelling, being remarkably watchful.

A Kádár marries more than one wife.

The women for the most part are not good-looking; and their habit of distending a hole in the lobe of the ear with a circular roll of bamboo, two or three inches in diameter, does not add to their beauty.

A Kádár belle wears her hair in a fringe, exactly on the type of that in vogue lately in Europe. On the march the women carry all the cooking utensils, and often have a child strapped on the top of their household goods. Their usual daily duty is to gather roots, at which they are quite as expert as the men, using a digging stick made of iron-wood, in default of a crowbar.

The Kádars are quiet and peaceable, and perhaps more truthful than most forest tribes. At all events they are to be depended on for never deserting *en masse* on a march, as most other natives may do on occasion.

The Mudavars are very little known in the Government portion of the teak belt, and in fact seem generally to avoid Europeans. This was Douglas Hamilton's experience, and it is confirmed by the later experience of forest officers. They are said to have come originally from the low country, having accompanied the Pándyan king of Madura when he fled to the forests; but this report wants verification.

They are said to keep small flocks and herds, and cultivate patches of ground; which, however, they abandon after one crop.

In the Travancore territory the Mudavars are now more settled in their habits, and live in more or less permanent villages.

They are distinctly of low-country origin, as may be seen from their regular features, light colour, and growth of moustaches. They arrogate to themselves the position of the aristocracy of the hills, and their claims are conceded by all the other tribes.

Low-country natives of superior castes are occasionally admitted into the Mudavar clan, but only after protracted ceremonies. Their property descends to the sister's son. In manners they are extremely reserved, especially in their dealings with other hill-tribes. They will not touch a Malasar. They are very good mountaineers, but are not constitutionally a brave race.

The name Mudavar is difficult to trace, as there is an example in the Coimbatore district of Mudavars of a very different type; this race being found in the forest on the hills west of Coimbatore at the head of the Bolampatti valley, and being in a marked manner aboriginal in feature and uncivilized in habits.

The *Puligars* have much in common with the Kádars. As a rule, however, they live lower down the slopes, and their most marked peculiarity, touched on by every writer, is the habit they have of letting their hair grow to inordinate length.

In form they are much like the Kádars, and are equally clever at building bamboo houses.

Although, as was mentioned above, Kádars on the tramp rarely build more than a lean-to, yet they build very good huts on occasion in their fixed camps, and are unequalled in their skill in splitting and utilizing bamboos in building. When working for Europeans they build splendid temporary camps. The knife they use is peculiar and utterly unlike that used by most natives which has a curved blade. The Kádar knife has a straight edge, but this edge inclines forwards at an angle of about 140° with the haft. The upper part of the blade is the broadest part, and being heavy at the back, it forms by far the best implement for splitting bamboos that is to be found in these forests. The Puliyars use both kinds of knives.

A favorite method with these tribes of treating the bamboo is to split it with one cleft only, then open it out and make several gashes at all the nodes. The result is that there are a series of partial but not complete clefts all down the bamboo, and it will then lie perfectly flat. Excellent temporary matting is thus made, and these opened-out bamboos form a very rapidly constructed wall for huts, being kept in place by tying them to upright bamboos. On occasion also these opened-out bamboos are not to be despised as a springy temporary mattress.

The Puliyars cultivate far more than the Kádars.

The Malasars live at a much lower elevation than the Kádars. They are found almost down on the plains and along the slopes near the foot of the hills. They are somewhat sturdier in general build, but have not the characteristic features of regular hill-men. They are not to be depended on in any way, but will desert *en masse* on the smallest excuse. They commit dacoities wherever they see an opportunity, and, in fact, even to this day the roads near the foot of the hills are rarely traversed by low-country natives, except in small bands from fear of the Malasars. On the other hand, the Malasars are useful as being excellent axemen; and as baggage coolies they can hardly be dispensed with. They carry for the most part on their heads like low-country coolies, but unlike the Kádars and Puliyars, who, when they can be induced to carry at all, carry loads only on their backs.

Small-pox is the great scourge of all the hill-tribes, and an affected patient is deserted in the most heartless manner by all his tribe.

According to late statistics, the whole population of these hills was said to be only 1,260—

Kádars	..	..	..	..	..	..	220
Mudavars	..	..	..	..	..	..	58
Puliyars	..	..	..	..	..	..	808
Malasars	..	..	..	..	..	..	174

But these figures are probably under the mark, as these hill-people have great suspicion of a census.

FORM I.

Statement showing the Revenue and Charges of the several Forest Ranges of the Coimbatore District.

Years.	Annimalai.		Belampatti.		Sigar, Satyamangalam.	
	Revenue.	Charges.	Revenue.	Charges.	Revenue.	Charges.
	RS.	RS.	RS.	RS.	RS.	RS.
1858-57	76,800	42,013	..	..	..	..
1857-58	79,912	36,398	..	..	..	..
1856-59	9,835	33,013	..	..	..	..
1859-60	2,65,933	22,485	..	..	2,363	2,148
1860-61	44,078	29,912	..	..	11,657	6,201
1861-62	22,091	42,201	..	..	25,097	5,643
1862-63	75	32,839	..	..	37,641	13,576
1863-64	38,165	37,278	..	..	32,720	14,617
1864-65	21,032	31,446	968	208	27,544	7,525
1865-66	11,194	28,445	361	1,097	28,269	11,554
1866-67	12,046	19,136	405	1,313	26,514	9,683
1867-68	58,969	33,210	12,177	4,926	29,152	10,558
1868-69	30,489	31,045	4,477	8,166	23,339	7,431
1869-70	88,913	38,616	13,351	6,246	21,465	10,700
1870-71	17,516	48,206	3,553	9,373	16,389	6,734
1871-72	50,817	38,140	7,638	9,764	21,827	8,916
1872-73	11,649	42,619	3,539	1,417	17,233	9,694
1873-74	67,699	35,881	4,508	2,709	15,892	6,927
Total ..	9,53,166	8,22,858	51,407	41,000	3,29,682	1,30,391

Years.	Bhavani.		Kollegal.		Mettupalayam.	
	Revenue.	Charges.	Revenue.	Charges.	Revenue.	Charges.
	RS.	RS.	RS.	RS.	RS.	RS.
1856-57 .. ..	..	..	..	..	..	..
1857-58 .. ..	..	..	..	..	..	..
1858-59 .. ..	..	..	..	..	..	..
1859-60 .. ..	..	..	..	..	..	..
1860-61 .. ..	..	..	..	..	..	..
1861-62 .. ..	..	..	..	..	..	..
1862-63 .. ..	..	..	..	..	..	..
1863-64	9,417	2,687	..	..	..	..
1864-65	540	2,113	17,927	6,698	..	..
1865-66	14,778	7,906	16,853	6,174	..	..
1866-67	16,292	6,643	16,897	7,730	..	..
1867-68	15,895	6,676	17,846	7,193	..	..
1868-69	15,856	6,046	15,339	6,806	..	..
1869-70	14,377	5,623	18,828	7,629	..	..
1870-71	11,595	8,045	11,680	6,987	..	..
1871-72	16,492	20,091	18,019	11,274	214	146
1872-73	26,686	20,424	18,361	13,120	807	3,863
1873-74	19,609	18,820	17,681	9,454	2,400	6,866
Total ..	1,57,448	1,05,550	1,69,312	82,066	3,430	10,875

These figures refer to transactions subsequent to the formation of the regular Forest Department.

Sanctioned scale of permanent Establishment of the North and South Coimbatore Divisions for the year 1885-86—continued.

Divisions.	Forest establishment—continued.									Amount.	Total.	Grand total.
	Foresters.			Forest Guards.								
	10	30	20	12	10	8	7	5				
North	1	3	2	3	6	8	5		Rs. 290	Rs. 490	Rs. 645	
South	1	3	2	4	3	11	12	5	450	720	575	

FORM V.

Statement showing the Revenue and Expenditure of the North Coimbatore Division for the official years 1883-84 and 1884-85.

Number of head-ings.	Particulars.	1883-84.			1884-85.		
	<i>Receipts.</i>	RS.	A.	P.	RS.	A.	P.
I	Timber, &c., removed by Government agency.	19,385	13	11	9,955	12	9
II	Do. do. by consumers, &c.	41,736	7	10	30,334	11	9
III	Confiscated drift and waifwood ..	128	0	6	290	11	0
V	Miscellaneous	841	15	8	720	4	7
	Book adjustment	6	0	0	..	..	..
		62,098	5	11	60,301	8	10
	<i>Expenditure.</i>						
A.							
I	Timber, &c., removed by Government agency.	5,270	15	10	4,165	4	1
II	Do. do. by consumers, &c.	2,297	2	2	2,323	5	9
III	Confiscated drift and waifwood ..	22	3	8	..	..	..
VI	Live and dead stock	103	5	0	21	14	0
VII	Communications and buildings ..	105	0	0	1,432	0	5
VIII	Demarcation, improvement, &c., of forests	932	13	7	2,663	15	0
IX	Miscellaneous	74	14	4	436	13	1
	Total expenditure under A. Conservancy Division	8,896	5	7	12,063	4	4
B.							
I	Salaries	16,539	12	4	16,092	5	3
II	Travelling allowance	3,250	5	0	3,475	5	4
III	Contingencies	760	7	0	781	0	1
	Book adjustment	36	8	0	..	..	..
	Total of B. Establishment ..	20,587	0	4	31,251	11	2
	Grand Total of all expenditure ..	29,393	5	11	33,314	15	6

CHAPTER XV.

MISSIONS.

Roman Catholic Missions—Jesuit—French—Gonnesse. Protestant Missions—London—Lutheran—American—Wesleyan.

CHRISTIANITY was first taught in Coimbatore in the seventeenth century by the Jesuit Fathers of the Madura Mission, who had a chapel at Dhárápúram so early as 1608. For details of the progress of the Mission the four volumes of "*La Mission du Maduré*" may be perused; the letters contained in these volumes also afford some information as to the then state of the country. Karúr and Erode were occupied early in the seventeenth century, and Satyamangalam shortly afterwards became the local head-quarters, when a good number of weavers and caste men were converted. Up to 1647 the Mission had the support of the "Naik" of Satyamangalam, who was the agent or governor of the Madura Naik, but on his death persecution arose and continued for some years. Even after it had died down there remained the dangers of climate, pestilence, and forest, which in Satyamangalam were terrible foes to the solitary missionaries. To these dangers were shortly added those of war and tumult when hostilities broke out between Mysore and Madura, so that missionaries and converts alike were driven to the pestilent jungle as a refuge from the more terrible cruelties of man. These privations told upon the two missionaries then in charge, so that in 1658, after the restoration of peace, the aged P. Emmanuel Martinez, then 63 years of age, succumbed after a service of 31 years, during which he had been four times imprisoned and tortured and four times forced to flee into the wilderness. Nevertheless, in 1662 there were 15 churches in Satyamangalam within a moderate area, and in 1666 the missionaries reported 130 Christian villages or hamlets grouped round 23 central churches, protected by the Mysore authorities. Karumathampatti and Andiyúr subsequently became head-quarter stations, the former being managed directly by the Superior of the Madura Mission, a fact which attests its importance. The priest of Andiyúr claimed to have converted a tribe of the wandering salt traders (Uppu-Koravers or Lambádias).

Until 1686 there was a succession of harassing misfortunes, both by Mahrattas and insurgents, after which the letters give no information about the Coimbatore churches till 1739, when the Bull of Clement XII, prohibiting certain Hindu customs till then tolerated in the Church,

caused dissensions and the apostasy of many caste converts. Then came the cessation of support from Portugal, the break-up of the dynasties of Madura and Mysore, and finally the suppression of the Society of Jesus by Clement XIV in 1773. Death, disease, and privation rapidly thinned the ranks of the missionaries, and their places were but partially supplied by other French priests, one of whom was the Abbé Dubois, whose field was Mysore, but who occasionally visited Coimbatore between 1790 and 1823. Little aid was sent from Europe until 1845, when the Coimbatore Mission was formed into a distinct mission in charge of the French priests of the "*Société des Etrangers*," which has its head-quarters in the Rue de Bac in Paris, and in 1850 it was made a separate bishopric with head-quarters first at Karumathampatti and finally at Coimbatore.

The mission is a Tamil Mission and therefore does not include the Canarese taluk of Kollegal, while, on the other hand, it includes the Nilgiris and part of Cochin and Palghat. At Coimbatore there is a convent of European and another of native nuns; also a seminary for training native youths for the priesthood, and schools for boys and girls.

The orphanages at Chinnapalaiyam and Coimbatore are after the fashion of agricultural and industrial colonies. The following note has been kindly supplied by the Rev. N. Roudy:—

"The Catholic Agricultural Orphanage at Chinnapalaiyam, North Bhavani, was established towards the end of the year 1866. It is situated on a large tract of land on the Cauvery measuring about 300 acres. The land when taken possession of was a waste Government land entirely covered by jungle and the home of tigers and other wild beasts. The Rev. A. Berthon, who first laid the foundation of the orphanage, had for three or four years to be on the watch day and night to protect the inmates as well as the cattle against these dangerous neighbours. The waste land granted by Government was enlarged by some surrounding lands bought by the Catholic Mission of Coimbatore. The whole land is now under cultivation. Some portions have been given to the orphans, who, as soon as they are of age to get married, are provided with houses, tools, and other agricultural implements.

"The orphanage began with 36 boys, and numbers at present 178 girls and boys. The girls are under the care of native nuns and the boys under the supervision of a Catholic missionary.

"The Catholic Orphanage at Coimbatore was much increased during the late famine; an agricultural farm has been also established. The boys are under the supervision of the parish priest and the girls under the direction of native nuns, by whom they are taught to become good housekeepers, and are taught reading, writing, and arithmetic, and brought up for the standard examinations. As for the boys, those who are fit for study are kept at school, and after a due course of training are intended to become village schoolmasters; those who have no inclination for learning are occupied with working in the fields; those who know any trade are taught the same, and when they are of age to get married, they are provided with houses and other means of livelihood, each according to his own profession or fitness."

Other statistics are as follow :—

Number of stations	..	..	..	..	..	10
Bishop	..	..	..	..	..	1
European priests	..	..	..	..	..	14
Native do.	..	..	..	..	..	4
Catechists	..	..	..	..	..	10
European nuns	..	..	..	..	..	3
Native do.	..	..	..	..	..	30
Number of Christians	..	..	..	..	..	11,000
Catechumens	..	..	..	..	..	60
Boys' schools	..	..	..	..	..	12
Number of boys	..	..	..	..	..	330
Girls' schools	..	..	..	..	..	4
Number of girls	..	..	..	..	..	174

There is a station of the Goa Mission at Aravakurchi; it is, however, of small importance.

London Mission.—The Coimbatore branch of the London Mission was started in 1830 upon the suggestion, in 1827, of the then Collector, Mr. J. Sullivan, to a travelling deputation from the Parent Society in London. The Rev. W. B. Addis was the father of the Mission, and continued at Coimbatore from 1830 till 1866, during which time he was assisted by various missionaries. Immediately on his arrival he began establishing schools, and in 1850 had 14 schools with 971 boys; after 1855 these fell off by reason of the establishment of Government schools. A school for caste girls, another for girls generally, and a girls' boarding school are among the existing institutions. For further details see "Education."

At the outset there was but one family of native Christians; these and the catechists who came with Mr. Addis were the original nucleus of the present church. Two of the sons of the first convert, who was engaged as a schoolmaster and soon afterwards renounced Hinduism, are now pastor and catechist respectively in the church. Work has been chiefly carried on in the Coimbatore and Erode taluks, other stations having hitherto received little attention, probably from want of funds and men. Statistics are as follow :—

Taluk.	Mission stations.	Missionary.	Zetana Missionary.	Native Pastor.	Evange- lists.	Cate- chists.	Bible Readers.	Col- porters.	Chapels.	Preaching- room.		
Coimbatore	3	2	* 2	2	1	..	* 4	1	2	1		
Pallachi	1	..	..	..	..	1	..	..	+ 1	..	
Udumalpet	1	..	..	..	..	1	..	..	..	+ 1	
Palladam	2	..	..	..	..	..	..	..	..	1	
Erode	4	..	..	..	..	2	1	1	1	3	
Bhavani	1	..	..	..	..	1	..	..	..	3	
Satyamangalam	1	..	..	..	..	1	..	..	..	+ 1	
Taluk.	Christians.		Catechu- mans.	Orphanage.		Boarding school.		Day schools.			Industrial.	
	Church members.	Baptized, including children.		Total.	Boys.	Girls.	Boys.	Girls.	Caste girls.	Ordi- nary girls.		Mixed boys and girls.
Coimbatore	172	313	485	13	21	14	..	..	68	35	..
Pallachi	5	31	26	1	..	..	..	..	..	..	..
Udumalpet	10	10	20	1	..	..	..	..	..	..	..
Palladam	5	9	12	1	..	..	..	..	..	..	..
Erode	23	69	122	42	..	..	..	..	..	..	..
Bhavani	4	7	11	..	..	..	..	..	..	..	..
Satyamangalam	5	5	10	..	..	..	..	..	..	..	..

* The Zemana Mission ladies in Coimbatore belong to the Society for the Promotion of Female Education in the East; the Bible Readers are their agents.

† The boys and girls of the orphanage appear again under the head of "Day Schools."

Evangelical Leipzig Lutheran Mission.—The Leipzig Evangelical Lutheran Mission was extended from Trichinopoly to the Coimbatore district in 1856 and was formed into an independent station in 1863. The statistics in February 1884 were as follow :—

Taluk.	Village.	Mission stations.	Missionary.	Native Pastor.	Catechists and Teachers.		Chapels.
					Catechist.	Teacher.	
Coimbatore.	Coimbatore ..	Coimbatore.	C. A. Ouchterlony.	Pariyannicken.	..	3	At Coimbatore.
	Sunda-Coimbatore.				..	..	At Sunda, Coimbatore.
	Vellalūr ..				1	..	At Vellalūr.
	Sāḷūr ..				..	..	..
Palladam.	Tirupūr ..	..	..	..	1	3	At Tirupūr.
	Ambapālaiyam.	..	..	..	..	1	At Ambapālaiyam.
Pollachi ..	Palladam ..	..	..	..	..	..	..
Udamalpet.	Pollachi ..	..	..	..	1	1	At Pollachi.
	Udamalpet ..	..	..	..	1	..	..
	Verudalappettah.	..	..	..	..	..	..

Taluk.	Church members.	Baptized, with children.	Boarding school.	Day school, number of children.		Number of schools.		Remarks.
			Boys.	Boys.	Caste girls.	Boys.	Girls.	
Coimbatore ..	90	189	30	* 50	16	1	1	* Including boarding boys.
Palladam ..	66	90	..	107	† 5	2	..	† The girls learn with the boys, although the school is intended only for boys.
Pollachi ..	24	69	..	80	† 5	1	..	It is intended to establish a separate girls' school at Tirupūr.
Udamalpet ..	13	30	..	..	..	..	..

N.B.—There are small Lutherau congregations in Ootacamund and in the Malayālam territory which are not included in the above.

Nobody receives merely secular instruction in the schools of the Mission.

American Madura Mission.—The American Madura Mission has a small congregation numbering about 40 adherents and 8 communicants at Komaralingam in Udamalpet, where there is also a school.

Wesleyan Methodist Mission.—This Mission has stations in the Karūr and Dhārāpūram taluks, chiefly at Karūr, Uppidamangalam, Aravakurūhi and Peria Dhārāpūram. It has only begun work in this district within the last few years. The statistics given below have been furnished by the Rev. H. Little of Karūr. The male and female orphanages of Karūr are special local features of this Mission; the boys are trained industrially, especially in agriculture, rope-spinning, carpentry and smith work; they also receive a general education. The girls receive a general and domestic education; in both cases the education is practical.

Taluk.	Mission stations.	Missionary, Pastors.	Native Pastors.	Evangelists.	Catechists.	Bible Readers.	Colporters.	Under secular instruction.				Instructed.			
								Children.		Adults.		Children.		Adults.	
								Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Karūr	3	2	1	1	2	1 (female).	2	184	108	2	4	12	22	20	4
Dhārāpuram.	3	1	..	..	2	..	1	11	5	..	..	..	..	4	4
Taluk.	Christians.			Catechism.	Orphanage.		Boarding school.		Day school.				Industrial.		
	Church members.	Baptized, including children.	Total.		Boys.	Girls.	Boys.	Girls.	Boys.	Caste girls.	Ordinary girls.	Mixed boys and girls.	Boys.		
Karūr	76	183	259	18	88	44	..	..	108	44	..	..	..	* 12	
Dhārāpuram.	7	10	17	5	..	..	..	..	..	..	..	16	..	..

* Those spend all the day in manual labour; the other 76 boys of the home work half time and attend school for three hours daily.

CHAPTER XVI.

TALUKS.

Description.—Boundaries and Area.—Hills.—Rivers.—Climate.—Soils.—Forests.—Natural History.—Villages variously tabulated.—Occupied Lands.—Government and Income.—Registered Transactions in Land.—Administration by Departments.—Local Funds.—Markets.—Municipalities.—Communications.—Ferries.—Railways.—Irrigation.—Assessment and Jamabandi by Quinquennially.—Wells.—Agriculture.—Crops and Seasons.—Other Industries.—Trade.—Chief Places.

COIMBATORE.

THIS fine taluk may be considered the most important and interesting in this district, not merely from its being the head-quarter taluk containing the town which gives its name to the district and the chief centre of administration and trade, but from its own merits in the matter of climate, soil, and position, and from its comprising on a larger or smaller scale something of interest to the agriculturist, merchant, forester, educationist, missionary, antiquarian, and sportsman. It is situated in the north-west corner of the district, at the foot of the Nilgiris and their spurs, which bound it on the west and north; the Pálghát gap is close to its south-western extremity; Polláchi and Palladam taluks bound it on the south and east; and Satyamangalam on the north-east. Its area is 578 square miles (370,104 acres) as per survey, but unsurveyed tracts are excluded from this and are roughly estimated at 56 square miles in addition. It is a large open plateau of considerable elevation, sloping away from the foot of the Nilgiris to the south-east, the elevation of Coimbatore itself being between 1,300 and 1,400 feet above sea level. The Nilgiris and their spurs are noble features in the landscape to the north and west, the higher ranges to the north being partly concealed by a nearer spur, the sharp pinnacle of Lambton Peak being within 5 or 6 miles of the town. To the west the Velliyangiri hills, within 15 miles of the town, form a rampart against the south-west monsoon, and, with the higher ranges behind, afford a splendid sight, whether in the glow of the setting sun or when overhung in the south-west monsoon by magnificent masses of storm-cloud. Further to the south-west is the Pálghát gap, through which, in the monsoon, rush masses of vapour immediately south of the town and distant only some 6 or 7 miles; on the other side of the

narrow gap rise abruptly the spurs of the Ánaimalais known as the Káehmalai range, while the splendid peaks of the Ánaimalais bound the landscape in the south at a distance of some 35 or 40 miles.

The taluk itself is no way picturesque, its treeless undulating plains being but seldom enriched by fertile soils and high cultivation, the only exception being near Coimbatore itself. It is traversed by two rivers, the Bhaváni in the north, descending from the Kundahs by way of Mettupálayam, where it is crossed by the road to the Nilgiris, and the Náyil, which, rising in the Valliyangiri hills in the west, traverses the taluk in the south, yielding its water by anicuts to the channels and tanks which enrich the neighbourhood of Coimbatore. The Kallár is a jungle stream in the Odanthorai village.

The climate of this taluk is, except in the hot corners under the hills, such as Mettupálayam, extremely pleasant; its elevation, especially near Coimbatore (1,348 feet), is in itself considerable and accounts for the invariably cool nights and the moderate average maximum of the thermometer; but it owes its chief salubrity to the south-west monsoon, which, pouring through the Pálghát gap from the end of May, tempers the heat to such an extent as to render the subsequent three months very pleasant though windy. The rainfall is however scanty, the gap doing little more than pour cool winds and vapour, and not dense clouds, into the country.

The soils are of the usual Coimbatore character, being derived from the disintegration of the gneissosæ rocks, interpenetrated with lime, and in parts enriched by the organic vegetable soils from the hills. Nodular limestone (kankar) is abundant, and crystalline limestone is found in several places, notably Madukarai and Maruthamalai near Coimbatore. Rock is very near the surface everywhere, and trees are stunted and poor, especially at Coimbatore, even where carefully pitted and fended. There are considerable tracts of black cotton soil, as for example around Coimbatore, and red loam is more abundant than in most other taluks. For full details see "Revenue Settlement," *sub* *etc.* "Coimbatore."

The forests are or were considerable, but the destruction for fuel and timber and cultivation in the Bolampatti valley has been very great; the freshes in the Náyil are considered to be more uncertain and violent than before, while the under-current—that sure token of steady feeding from its sources—has so diminished that the anicuts and spring channels below Súlúr are almost useless, and large areas of land have in Palladam taluk been transferred to dry. The reforestation of these slopes by careful reservation is now the object of special inquiry under the Forest Act. The lower slopes of the Nilgiris are also included in this taluk. Village woodlands do not exist, and a striking feature near Coimbatore are uplands entirely bare of tree or hedge; for fuel and for fodder purposes in this wind-swept tract extensive planting would be useful.

The hill fere are of the usual kinds: big game are plentiful at the foot of and on the hills. On the plains it is rare to see anything, antelope being but few and other game almost *nil*, whereas some thirty years ago officers accompanying troops from the Nilgiris to Pálghát found and shot game, including antelope, spotted deer, etc., in abundance. Wolves are occasionally seen.

Fish are abundant in the Bluváni, and excursions are occasionally made by well known fishermen to Mettupálaiyam and its neighbourhood.

Villages are of most irregular size, ranging from 228 to 10,480 acres. The total number is 269, of which 9 are unsurveyed, 5 are inam or shrotriam, and 255 are surveyed Government villages. They are tabulated as follow:—

Size of villages.	No.	Size of villages.	No.	Houses.	No.	Hamlets.	No.	Pattahs.	No.
Acres.		Acres.							
Under 200	27	Under 200	113	Under 100	106	Under 5	239	Under 50	71
Do. 1,000	81	Do. 1,000	75	Do. 250	112	Do. 10	27	Do. 100	99
Do. 2,000	94	Do. 2,000	48	Do. 500	31	Do. 20	2	Do. 200	68
Do. 3,000	30	Do. 3,000	12	Do. 1,000	13	Do. 30	..	Do. 300	21
Do. 4,000	12	Do. 4,000	5	Above 1,000	7	Above 30	..	Do. 400	2
Do. 5,000	8	Do. 5,000	5					Do. 500	4
Above 5,000	2	Above 5,000	10					Above 500	4
Total ..	269	Total ..	269	Total ..	269	Total ..	269	Total ..	269

Number of villages.				
Dry only.	Wet only.		Wet and dry.	
	Channel.	Tank.	Channel.	Tank.
226	17	22

Villages.	No.	Villages.	No.	Villages.	No.
Under 10 wells ..	121	Under 50 acres gar-den ..	137	Under 50 acres amma- ed waste ..	62
Do. 20 do. ..	57	Do. 100 do. ..	54	Do. 100 do. ..	20
Do. 30 do. ..	47	Do. 200 do. ..	35	Do. 200 do. ..	62
Do. 50 do. ..	30	Do. 300 do. ..	21	Do. 300 do. ..	26
Do. 75 do. ..	15	Do. 500 do. ..	11	Do. 400 do. ..	9
Do. 100 do. ..	5	Above 500 do. ..	11	Do. 500 do. ..	11
Above 100 do. ..	8			Above 500 do. ..	100
Total ..	269	Total ..	269	Total ..	269

Occupied ayan (Government) lands are as follow :—

Paoi.	Channel wet.			Tank wet.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.
1281 ..	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1291 ..	5,312	75,892	9 2 1	2,450	11,965	4 13 9
1291 ..	9,900	73,861	7 6 4	2,553	12,120	4 12 0
Paoi.	Dry, including garden.			Total.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.
1281 ..	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1291 ..	229,805	2,21,842	0 15 5	240,567	2,09,639	1 4 7
1291 ..	242,400	2,39,701	0 15 9	254,942	3,25,800	1 4 5

N.B.—The area includes that held in all villages, both on the plains and in forest villages; hence a difference between these and settlement figures.

Inam lands are as follow :—

Nature of inam.	Wet.			Dry.			Total.		
	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.
Dévaldiyam ..	ACRES.	RS.	RS.	ACRES.	RS.	RS.	ACRES.	RS.	RS.
Beshmadiyam ..	1,555	740	10,990	4,248	468	2,562	5,803	1,208	14,542
Dharmadiyam ..	302	188	1,772	3,759	995	4,726	3,972	1,103	6,498
Dharmadiyam ..	29	09	307	109	17	126	138	86	432
Shrotriam, Jaghires ..	..	..	..	3,554	..	2,914	3,554	..	2,914
Kazi ..	13	9	117	109	14	131	121	23	218
Village service ..	732	75	6,100	10,867	448	11,700	11,690	523	17,860
Total ..	2,362	1,097	10,279	22,458	1,842	23,210	24,317	2,940	42,496

Transactions in land are as follow :—

Year.	Sales.		Mortgages.		Leases.	
	Above Rs. 100.	Below Rs. 100.	Above Rs. 100.	Below Rs. 100.	Perpetual.	Ordinary.
1880-81 ..	276	497	1,557	819	..	367
1881-82 ..	331	547	1,557	811	..	329
1892-93 ..	981	517	1,410	709	..	373

Revenue Administration.—The taluk contains the district headquarters; it is usually under the Assistant Collector. There is also a Treasury Deputy Collector. For staff, see Appendix.

Judicial.—For judicial staff, see Appendix. The District Magistrate occasionally has direct magisterial charge of the taluk, but only when

the division officer is unpassed; it is usually in charge of the Assistant Magistrate.

The Deputy Inspector-General of Police has his head-quarters at Coimbatore, and the Superintendent of Police is also located here; the taluk is part of his division. For details, see "Police."

Besides the Central and District Jails, there are Sub-Jails at Coimbatore and Mettupálaiyam. Civil jurisdiction is exercised by a District Munsiff, who has charge of this and part of Satyanangalam taluk.

The District Registrar has local jurisdiction in registration work, besides a Special Sub-Registrar at Mettupálaiyam.

Public Works.—The taluk is under the Executive Engineer, whose head-quarters are at Coimbatore, and who has immediate charge of the irrigation works of the Noyil and the several public buildings.

Forests are under the Deputy Conservator of the southern division, who has, as subordinates for this taluk, the following staff: a ranger at Bolampatti on salary Rs. 80, and two foresters on Rs. 40 and 20 at Mettupálaiyam and Sholakarai respectively.

The head-quarters of the Civil and Assistant Surgeon are also at Coimbatore; the meteorological observatory at the hospital is also under his supervision.

For "Education" see the chapter on that subject.

Local Funds.—The Local Fund Engineer himself has charge of this taluk. Roads are numerous and usually good; from Coimbatore they diverge in every direction. For Local Fund chattrams and bungalows, see Appendix.

Vaccinators are three in number.

Leased markets are as follow:—

Place.	Day.	Rent for 1882-83.	Total amount of houses to 31st March 1882.	Total expenditure, to 31st March 1882.	Assets on hand 31st March 1882.	Standard shade.	Wells.	Trees.	Swapers and water-supplies.
		rs.	rs.	rs.	rs.				
Tudiyalár	Monday ..	1,352	7,037	4,341	2,490	2	1	108	3
Kacimmedai	Friday ..	932	5,775	2,312	3,463	1	1	32	4
Mettupálaiyam ..	Saturday ..	639	2,366	1,351	1,003	..	..	50	3
Sirmangal	Tuesday ..	318	2,119	1,323	591	..	..	40	4
Irunbárai	Thursday ..	356	2,015	1,349	766	..	1	150	1
Chikar Shanmudam ..	Wednesday ..	1,046	6,127	2,474	3,653	..	1	66	4
Annár	Saturday ..	1,006	4,399	2,338	2,052	1	1	42	3
Vallalár	Tuesday ..	510	1,989	2,020	..	29	1	106	4
Chottipálaiyam ..	Saturday ..	123	635	1,074	449	1	1	150	1
Madukarai	Tuesday ..	151	276	1,104	128	1	..	9	2
Kanthagoundan Sálai ..	Tuesday ..	161	791	1,237	440	1	1	33	2
Pudavajutti	Friday ..	309	1,288	1,103	125	1	1	71	1
Pordr	Sunday ..	165	544	1,902	458	1	1	6	1
Thandamattár	Saturday ..	88	457	908	451	1	1	47	1
Marathár	Tuesday ..	51	67	34	33	..	1	..	..
Total ..		7,488	36,773	24,640	12,133	11	13	..	34

There are no unleased markets.

Coimbatore town is a Municipality, and has a large hospital daily visited by the Civil Surgeon, schools, the usual sanitary establishment and provision, a market, bungalow, office, &c. (*vide* Municipalities).

Post offices are at Coimbatore, Mettupálaiyam, Pódanúr, and Andi-puthúr.

The Madras Railway telegraph is open to the public at all its stations (*vide* Railways).

A good bridge crosses the Bhaváni at Mettupálaiyam; there are other minor bridges. Avenues are singularly poor. There are ferries only across the Bhaváni.

River.	Villages on both sides.		Rent of ten years.			Usual season.
			Maximum.	Minimum.	Average.	
Bhavani.	Sirumagai	Thimmarayampálaiyam.	Rs. 125	Rs. 20	Rs. 59	July to November.
	Kottavirampálaiyam ..	Nelliturai	44	10	24	
	Múlaturai	Sennamalai	21	15	18	
	Kuttamundi	Sujalhatti	34	10	19	
	Nelliturai	Kottavirampálaiyam ..	75	24	45	

The Madras Railway main south-west line traverses the taluk from east to south-west, and its Nilgiri branch leaves Pódanúr northwards for Mettupálaiyam *et* Coimbatore; the stations and extent of the line within the taluk are noted below:—

Nilgiri branch stations.	From		To		Main line stations.	From		To	
	Mile.	Telegraph post.	Mile.	Telegraph post.		Mile.	Telegraph post.	Mile.	Telegraph post.
Coimbatore .. Tudiyalūr .. Gādālār .. Karammedai .. Mettupālayam }	302nd mile.	1st post.	397th mile.	8th post.	Singanailār .. Pōdanūr .. Madukurai .. }	290th mile.	6th post.	312th mile.	15th post.

Irrigation.—The following extract from the Settlement Report summarizes the taluk irrigation:—

“The principal sources of irrigation are the Náyil and its tributaries and the Kallár river. The Náyil and its tributaries irrigate 11,906 acres (including irrigation by lift) in twenty villages by channels ‘taken off from

¹ The larger part of this irrigation is not direct from channels, but from large storage tanks (*e.g.*, at Coimbatore) fed by channels: *vide* table *infra*.—N.

the streams by weirs and anicuts, of which there are eight—Nilaynikál Padukattuvaikál, Chitrachavadi, Perúr, Kurichi, Coimbatore, Vellalúr, and Singánallúr.

"One hundred and seventy-five acres in the Mudváráypuram village are irrigated by two jungle streams.

"The Kallár has no weirs or anicuts built across it, but earth dams supply two channels irrigating 1,698 acres in two villages.

"Besides the foregoing there are eleven rain-fed tanks irrigating 686 acres in eleven villages, and five smaller jungle streams irrigating 117 acres in five villages.

"The remarks already made regarding the waste of water in the channels of the Satyamangalam taluk apply with equal force to the channels in Coimbatore. I have obtained detailed information regarding the size of the sluice-vents, area irrigated, etc., in the Chitrachavadi channel, which is supplied by the river Nýyil and irrigates about 4,000 acres of land. The following extract from the list will show the utter absence of system and control in the distribution of water, and I may add that this absence of system is the rule and not the exception throughout all the channels to which I refer.

	Sluice No.	Size of vent in inches.	Area irrigated in acres.
32	10 × 16	76
33	16 × 16	15
34	14 × 14	6
35	12 × 12	20
36	14 × 14	194
37	14 × 14	40
38	14 × 18	20
39	Open cut through bank	14
40	28 × 18	41
41	24 × 26	10
42	11 × 6	4
43	16 × 16	119

"Here it will be seen that the largest area under any one of these sluices is 194 acres, and that the aperture or vent of that sluice, No. 36, is 14 inches square. But the next sluice vent, No. 37, is of the same size and has to irrigate only 40 acres. The next again is still larger, and has to irrigate only 20 acres. Worse still No. 39, an open cut or gap through the channel bank, irrigates only 14 acres. The largest sluice vent of all, No. 41, is a huge cavity more than 2 feet square, which has to supply only the trifling area of 10 acres."

The following table shows channels and channel-fed tanks :—

	Ayacut.		Holdings.		Waste.	
	Area	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Coimbatore channel	226	2,196	226	2,196	1	6
Do. big tank	1,332	13,133	1,337	13,016	15	117
Do. Velankulam	655	7,269	690	7,121	19	148
Chitrachavali channel	1,055	16,749	1,949	16,795	6	44
Puthakulam	87	772	56	797	1	6
Kolampatti tank	129	1,083	123	1,042	6	41
Namasampatti do.	599	4,326	578	4,682	21	144
Krishnampatti do.	666	4,756	591	4,363	65	393
Selvasampatti do.	206	1,450	202	1,424	4	28
Komarashani do.	101	1,173	169	1,170	1	5
Selvasantam do.	84	613	83	600	1	7
Singannallur channel	461	3,537	436	3,380	25	187
Do. tank	843	6,819	899	6,779	0	40
Vellalur channel	260	2,246	232	2,220	4	26
Do. tank	325	2,852	325	2,852	..	..
Kurichi channel	57	405	56	401	1	4
Do. tank	397	2,669	385	2,355	2	14
Kuniamattur channel	443	4,093	431	3,994	12	99
Do. big tank	860	4,282	862	4,263	4	19
Senkulam	408	2,760	487	2,711	11	58
Sottandikuttai	48	241	47	235	1	9
Konguvarayarsamudram	342	2,234	328	2,161	14	83
Neddi channel	758	3,679	806	3,420	62	259
Ookulam tank	198	704	68	293	130	471
Ikkurai Boluvampatti Potta- kottai channel	492	2,544	483	2,509	9	35
Pachuvayal	171	761	140	583	31	118
Sundravayal	28	97	28	97	..	..
Total ..	12,615	94,854	12,163	92,029	452	2,325
Rain-fed tanks and jungle streams—						
Chikar Samakulam	109	547	109	547	..	..
Agrahara Samakulam	150	939	150	939	..	..
Vellathi tank	60	350	60	350	..	..
Annur do.	119	747	119	747	..	..
Alilikulam do.	38	151	38	151	..	..
Odampalaiyam tank	40	199	40	199	..	..
Vadakkalur do.	30	151	30	151	..	..
Kembanikuppalaiyam do.	39	197	39	197	..	..
Mettupalaiyam do.	29	144	29	144	..	..
Kunnattur do.	127	773	127	773	..	..
Total ..	741	4,198	741	4,198	..	..
Nelliturai Kallupallam	531	2,946	515	2,860	16	77
Odanturai Kallur	1,062	4,010	1,046	3,935	21	75
Ottakulamantapam jungle stream.	108	657	108	657	..	..
Akkur Boluvampatti Sadivayal.	86	343	82	327	4	16
Mathurayaperam Mandanturai- vayal	66	256	64	247	2	9
Koduvampudivayal	109	436	97	386	12	46
Other minor streams	46	233	46	233	..	..
Total ..	2,013	8,880	1,956	8,657	55	223
Grand Total ..	15,360	1,07,032	14,802	1,05,384	507	2,548

The waste of water under these channels is notorious, but is no worse than in other taluka. Tank water, as usual, is more carefully distributed, but the expenditure is still very considerable.

The following table gives the average assessment and jamabandi of occupied ayan (Government) lands for a series of quinquennia :—

Quinquennia.	Channel.			Tank.		
	Holding.	Jama- bandi.	Differ- ence.	Holding.	Jama- bandi.	Differ- ence.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1271-75 ..	91,344	63,890	26,454	8,634	6,830	1,804
1275-80 ..	93,471	67,165	26,306	11,113	8,941	2,172
1281-85 ..	88,186	62,833	25,353	12,116	10,404	1,712
1285-90 ..	86,049	67,511	18,538	12,021	10,301	1,660
1291	69,066	66,253	2,812	12,066	10,860	1,197
1292	73,066	75,617	+ 2,551	12,083	10,936	1,167

The number of wells with other particulars is as follows :—

Class of lands.		Good wells.			Lifts.	Lands under good wells.		Area actually irrigated.	Wells in need of repair.	Area under wells in need of repair.
		In use.	Not in use.	Total.		Area.	Assess- ment.			
						ACRES.	RS.	ACRES.		ACRES.
Dry	Ayan ..	4,714	617	5,331	7,391	22,847	32,608	23,220	1,208	5,689
	Inam ..	390	44	440	716	2,441	3,690	2,514	00	267
Wet	Ayan ..	429	52	481	703	1,615	11,262	1,156	21	49
	Inam ..	79	13	92	133	355	2,811	165	8	37

Agriculture.—There is a good deal of interest in the agriculture in this taluk, especially near Coimbatore. Cultivation has been taken up by well-to-do families, with excellent results in the way of outturn; up to date, however, no special improvements have been introduced by them whether in the way of new methods, new seeds or experimental crops, new implements or water-lifts, or new modes of treating stock or of improving and storing manure; all that can be said is that existing practice has been well carried out.¹ The crops and their seasons are tabulated as follows :—

¹ Mr. Wollerton's introduction of the Suddipet water-lift, of Guinea grass, and of a roughly manufactured poudrette in the Municipality, are exceptions; also the experiments in silk and Nankin cotton in the Central Jail and Municipality.

Crops.	Dry land.	
	Sowing time.	Reaping time.
Cholam	September and October ..	December and January.
Ragi	July	November.
Rambu	Do.	Do.
Thonal	September and October ..	January and February.
Cotton	Do. do.	March.
Bengal-grass	November	February.
Yaragu	June and July	Do.
Coriander	September and October ..	January.
Dholl and other pulses ..	August and September ..	January and February.
Crops.	Garden.	
	Sowing time.	Reaping time.
Cholam	February and March ..	June.
Ragi	September	December.
Wheat	October and November ..	February and March.
Chillies	July	September and onwards.
Sweet-potato	October and November ..	January and February.
Cummin	November	February.
Vendayam	Do.	Do.
Kasaba	April	June.
Crops.	Wet.	
	Sowing or transplanting.	Reaping time.
Paddy	July and August	December and January.
Ragi	June	September.
Sugar-cane	July and August	August (next).
Betel	Do.	Do.
Plantain	April and May	Next April and May.
Turnerie	June and July	February and March.

On dry black soil two crops are usually raised, viz., cholam in the south-west and cotton in the north-east monsoon; ragi is also grown near the hills where soil and rainfall are good. In garden lands the speciality is wheat, which is largely grown from October to February; the outturn is considerable (*vide* "Agriculture"). Wheat from Melbourne was introduced in 1882 as an experiment, but failed. European vegetables are well grown from June to February, beet, potatoes, carrots, etc., attaining a good size and quality; the red soil, when well watered, gives an excellent outturn. Guinea grass and lucerne are grown in some quantity in the Municipal gardens both for sale and for the Municipal bullocks.

Wet cultivation is excellent; for miles round Coimbatore the water of the tanks is utilized in splendid crops of paddy, sugar-cane, betel, coconuts, plantains, and such like. There is, however, nothing special to note in the practice or results.

The mulberry thrives in Coimbatore, and the growth of the Ceara rubber is now being developed near Kallár.

The Municipal gardens are features in Coimbatore, but beyond giving a good supply of grass, etc., and using up the unsaleable *poudrette*, no special result has been obtained; ryots are already perfectly aware that much manure and rich tank-bed soil will yield fine crops and growths. The Saidápet water-lift, which it was hoped would replace the native lift, has failed to make way; not one of the well-to-do ryots who lauded it introduced it in his own garden. The ryot also still prefers to grow in his gardens a crop of cholam, etc., which gives "straw for the ox and grain for his master," instead of a crop of Guinea grass, which, without artificial irrigation, will not grow in Coimbatore except when other grasses are abundant.

Other industries are to be found. Sugar-boiling after the rough native fashion is carried on; jaggery of course is largely made. Paper-making, recently carried on in a small way, has died out. Tanning is very well represented, the two large yards on the road from Coimbatore to Pódanúr turning out large quantities of leather, which is exported to Europe. As a rule, the skins are those of sheep or goats, not ox-hides (see "Tanning"). Carts and furniture of the common sorts are made in Coimbatore, but there is no elegant cabinet or furniture work. Weaving is poorly represented by the commonest manufactures. Silk has been attempted, but was a failure commercially, and the worms are liable to suffer from the heat in the summer. The district distillery is at Coimbatore and turns out a good quantity of fair arrack; a sugar factory was to be added, but has not yet been started. There is a large coffee and cotton factory in Coimbatore owned by Messrs. Stanes, who have also recently bought the cotton works started by another firm. The railway workshops at Pódanúr are only adapted for repairs and not for building. No oil-press has been started, only the common mill being used. Metal workers are not conspicuous, but one or two goldsmiths are capable of excellent work.

Trade.—The chief exports are wheat, chillies, tobacco, jaggery, and cotton; the first goes to the Nilgiris, the next three to the West Coast, and cotton to Bombay.

Principal Places.—Coimbatore, in the north-western corner of the taluk, is a town of importance and antiquity, but little is known of it till the time of the Mysore conquest; both Haider and Tipú frequently made it their head-quarters, the old palace mentioned by Buchanan having been on the site now occupied by the taluk catecherry. It then boasted a fort, the famous defence of which in 1790 is one of the bright incidents in the history of the wars with the Mysore Mussulman dynasty. After the British conquest it did not become the district head-quarters till the amalgamation of the two divisions in 1805. At the time of Buchanan's visit it was a moderate-sized town of 2,000

houses of no special features. It is now a Municipal town of 38,967 inhabitants and 6,784 houses, fairly built, particularly clean for an Indian town, and healthy. It is the head-quarters of the local administration, including the Collector, whose office and treasury are near the railway station, the District Judge, whose court is hard by, the Superintending Engineer of the fourth circle, and the Executive Engineer in charge of the district, who occupy for their office the cotton godown used by Dr. Wight in the cotton experiments of 1841-49; the Deputy Inspector-General of Police and District Superintendent, the Zillah Surgeon, the Deputy Conservator, and the Local Fund Engineer. A Chaplain is also stationed here, and the beautiful little church is architecturally and otherwise a pleasing feature in the landscape. The central jail, accommodating 1,221 inmates, is noted for its plan and management, and the civil dispensary under Municipal supervision is doing most useful work. Three Missions are stationed here, viz., the Roman Catholic French Mission, headed by a Bishop, whose cathedral is a marked object in entering the town by rail; the London Mission, whose premises are near the Collector's office; and the Lutheran Mission. The usual public offices, as also a railway station and telegraph, are available. The town is the centre of a considerable trade, and the chimney and roof of Messrs. Stanes' coffee and cotton works, in which are employed 1,000 hands, are conspicuous and, in their way, pleasing objects. There is a good second-grade college, notable as being a private and not a Government institution, a high school, etc., attached to the college, another belonging to the London Mission, and a new private one; also a normal school for the training of elementary schoolmasters. The public bungalow is much used by visitors and travellers on their way to and from the hills, that at Pôdanûr being now closed.

Mettupâlayam is the station of a Deputy Tahsildar and second-class Magistrate, the terminus of the Nilgiri branch of the Madras Railway, and the starting-point of the Nilgiri ghât, soon, it is believed, to be ascended by a Rigi railway; it is therefore a place of importance. It has a dispensary, bungalow, hotel, etc., and the post-houses of the agencies for carrying passengers and goods to the hills. It is notoriously hot and unhealthy. The Bhavâni runs by the town and gives good fishing; game of all sorts is abundant within a short distance.

Perûr or Mâl Chidambaram, 4 miles from Coimbatore, has a remarkable temple of great sanctity and alleged age; it is one of the few that Tipû respected both in its buildings and lands. Fergusson has visited the spot and has remarked upon its sculptures; he considers the buildings to be of very recent date (eighteenth century), as shown by the figure of a sepoy with musket, etc., sculptured in the porch or mandapam in front of the shrine, and thinks that its completion was probably interrupted by the Mussulman assumption of Mysore; Buchanan's remarks corroborate this. The inner shrine is, no doubt, of considerable antiquity, as Perûr is one of the seven Kongu Sivâlayams.

Karaimadai on the Nilgiri branch is noted for its great festivals. Chief villages are Chitrachávari, Singánallúr, Komarapálayam, Kurichi, Koniamuttúr, and Kálapatti.

There are Christian burying-grounds at Coimbatore and Pódanúr.

BHAVÁNI.

This is a large taluk of about 722 square miles, of which however only 303 are surveyed by the Revenue Survey Department. It is situated on the north-east corner of the district, and is bounded by the Cauvery on the north and east, by the Bargúr hills on the north-west and west, by the Satyamangalam taluk on the west, and Erode on the east.

The drainage is to the Cauvery, either direct or by the Bhaváni on the south; a chain of tanks called the Appagudal series runs from the hills in the north to the Bhaváni on the south. The taluk is extremely hilly, and is largely unsurveyed and practically unexplored, its low hills and their villages being out of the way, unhealthy, and of little present value. Roughly speaking there are 400 square miles of hills and forest of which little is known. The Pálamalai and Bargúr hills are the chief ranges, and the Uráchikottai hill, surmounted by a temple, 3 miles north of Bhaváni, is a striking feature from its sharp conical shape. This taluk was formerly one of the principal routes to and from Mysore, the Kávéripuram pass being alternately used for purposes of war and trade. It was by this route that Buchanan entered Coimbatore in 1800 on his tour of inspection, but it is now almost abandoned in favour of the route via Satyamangalam and Hassanúr, while the Bargúr ghát route also takes off some portion of the foot or bullock traffic.

Its climate on the whole is feverish and hot in the plains, and its hills are by no means above fever range. It shares in both monsoons, but, except on and near the hills, the general rainfall in the south-west monsoon is not so good in the interior as at Bhaváni itself where the rain-gauge is kept, owing to the position of Bhaváni at the end of the Bhaváni river valley, down which the clouds sweep; from Erode rain may frequently be observed at Bhaváni and even Perundurai when none falls elsewhere. Hence the rain returns are somewhat incorrect, except for the south of the taluk, and the tanks receive no supply till the north-east monsoon. The south-west winds are little felt in this taluk. The rocks are, as everywhere, gneissos, intersected by veins of quartz and in places covered by masses of once fluid limestone (Buchanan). The soils that are the product of these rocks are in general poor, much of the clay from the felspathic portion of the gneiss having been washed down to more fortunate districts; seven-eighths of the soils are red, above three-fourths being red sand or gravel. The gardens are produc-

tive as in other taluks, but the distance from markets renders their produce less valuable.

For classification of soils and assessment, *vide* "Revenue Settlement."

By the settlement of 1879 the occupied Government assessed lands were 121,364 acres, or 87 per cent. of the total assessed Government area (139,411 acres); this excludes all consideration of inams (13,986 acres) and of non-surveyed areas. In the latter tracts, the settlement officer has given as his opinion that there are more than a lakh of acres of assessable waste fit to be brought under cultivation. The objection to these lands are their unhealthiness and the nuisance of wild beasts; these are at present prohibitive of cultivation. The difficulty was, however, overcome in Pollachi in the Ánaimalai tract, and will no doubt be equally overcome in Bhaváni as soon as population presses or some enterprising ryot takes up the matter. At present the settlement officer considers that they might be developed as forests. The lands alluded to are situated chiefly in Bargúr, Pálamalai and Nadukával. Inam area is 4.59 per cent. of the total ayacut; *dévastánams* are paid in money as in the rest of the northern division. The forests are on an imposing scale, and one object of the Bargúr ghât was the opening up of these hills for supplies of timber and forest produce, and to induce planters to settle thereon. It has been also suggested, and surveys have been made with that end, that timber and fuel should be floated down the Cauvery to Erode.

Ferns are of course very varied; wild animals of every species are common and numerous; rewards are given for, and numerous deaths are caused by, tigers and cheetahs. Bison are common on the hills, and the forests of the northern portion of this taluk and Satyamangalam are the special home of the elephant.

Domestic animals are also plentiful owing to the abundance of waste lands and the proximity of the forests for pasture; an ordinary ryot often owns ten or twelve head of cattle, whereas in Erode he would have three or four. The official numbers are totally misleading; it has been found in villages that the cattle and sheep owned merely by the ryots who had fallen into arrears of revenue, far exceeded the total number entered in the returns. Owing however to the absence of big ryots or hereditary chieftains, there are no great stock-breeders. There are two special breeds, *viz.*, Bargúr and Álambádi. Fish are good and plentiful in the two rivers.

The tribe of Pallis, also called Padiyáchis, are numerous in this taluk; they call themselves Goundans and nothing special is known about them. Of the hill tribes little is known; the Goundans of Bargúr have peculiar customs and are apparently a different race from the Goundans of Kongudesam.

Canarese is largely spoken in this taluk, which was long under the Mysore kingdom, and is more a Canarese than a Tamil taluk. Its Brahmans are mostly Canarese and are often connected with those above ghâts.

Villages demarcated, surveyed, and settled are 62; of these 50 are in the first and 12 in the second group; there are 4 unsurveyed, one being in the Pálamalai, another on the Bargúr hills, and two in the neighbouring jungles; they are variously tabulated as follows:—

Size of villages.	No.	Size of villages.	No.	Houses.	No.	Hamlets.	No.	Puttaha.	No.
ACRES.		RS.							
Under 500	3	Under 500	14	Under 100	16	Under 5	27	Under 50	11
Do. 1,000	11	Do. 1,000	15	Do. 250	21	Do. 10	21	Do. 100	12
Do. 2,000	18	Do. 2,000	17	Do. 500	15	Do. 25	12	Do. 200	16
Do. 3,000	10	Do. 3,000	5	Do. 1,000	10	Do. 30	3	Do. 300	10
Do. 4,000	6	Do. 4,000	8	Above 1,000	4	Above 30	3	Do. 400	7
Do. 5,000	8	Do. 5,000	4					Do. 500	5
Above 5,000	10	Above 5,000	3					Above 500	4
Total ..	50	Total ..	66	Total ..	66	Total ..	66	Total ..	66

Number of villages.				
Dry only.	Wet only.		Wet and dry.	
	Channel.	Tank.	Channel and tank.	Tank.
47	2	17

Villages.	No.	Villages.	No.	Villages.	No.
Under 10 wells	.. 18	Under 50 acres gardens	26	Under 50 acres assesse- ed waste	9
Do. 20 do.	.. 8	Do. 100 do.	10	Do. 100 do.	8
Do. 30 do.	.. 9	Do. 200 do.	10	Do. 200 do.	8
Do. 40 do.	.. 6	Do. 300 do.	5	Do. 300 do.	10
Do. 75 do.	.. 7	Do. 500 do.	11	Do. 400 do.	4
Do. 100 do.	.. 2	Above 500 do.	4	Do. 500 do.	1
Above 100 do.	.. 15			Above 500 do.	26
Total ..	66	Total ..	60	Total ..	66

Occupied Government lands are as follow:—

Fuel.	Channel.			Tank.			Jungle stream.		
	Area.	Asses- ment.	Average assess- ment.	Area.	Asses- ment.	Average assess- ment.	Area.	Asses- ment.	Average assess- ment.
1281 ..	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1291 ..	4	33	8 4 0	1,328	7,777	5 0 5	19	78	4 1 8
1292 ..	4	33	8 4 0	1,285	7,948	5 5 6	15	63	4 3 2

Fasli.	Dry.			Total.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.
	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1281 ..	130,314	1,05,805	0 13 0	132,292	1,16,836	0 14 2
1291 ..	111,319	1,01,905	0 14 7	112,768	1,09,778	0 15 3
1292 ..	113,906	1,03,721	0 14 7	115,294	1,11,705	0 15 0

The area here given differs from that found by the settlement in Fasli 1288 (1879): subsequent to that date a considerable area which, owing to the famine, stood in the names of deceased or missing ryots, was struck out of the accounts or was relinquished. Hence the diminution in Fasli 1291. Five hundred and forty acres of wet land (nominal) were transferred to the head of dry in Fasli 1288. The increase in the average dry assessment in Fasli 1291 is due solely to the worst and lowest assessed lands having been sold or given up since the famine. The new settlement in Fasli 1288 reduced the average dry assessment by 4 pies per acre.

Inam lands are as entered below :—

Nature of inam.	Wet.			Dry.			Total.		
	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.
	ACRES.	RS.	RS.	ACRES.	RS.	RS.	ACRES.	RS.	RS.
Dēvadāyam ..	19	10	131	1,785	489	1,772	1,804	499	1,903
Brahmadāyam ..	14	17	94	1,146	269	1,195	1,159	286	1,239
Shrotriya, Janghires ..	..	..	..	5,311	641	5,074	5,311	641	5,074
Ardhamānīm ..	..	..	..	279	..	279	..	..	279
Kāsi ..	8	8	62	491	79	510	499	87	572
Village servants.	18	1	118	5,848	348	5,530	5,866	349	5,648
Total ..	59	36	405	14,559	1,826	14,339	14,618	1,862	14,705

Lands are of fair value considering the abundance of waste lands and the comparative isolation of the taluk.

The following table shows transactions in land as taken from Registration records :—

	Sales		Mortgages		Leases.	
	Above Rs. 100.	Below Rs. 100.	Above Rs. 100.	Below Rs. 100.	Perpetual.	Ordinary.
1876-77 ..	85	4	88	..	12	8
1877-78 ..	96	7	107	2	7	2
1878-79 ..	82	16	83	3	4	6
1879-80 ..	130	86	163	95	2	10
1880-81 ..	175	191	231	183	..	15
1881-82 ..	172	232	267	174	2	10
1882-83 ..	181	255	164	157	2	24

Payments to *dévastánams* are made from village collections and not by land endowments, all of which were resumed by the Mussulman Government or commuted by Macleod :—

Dévastánams.	Villages.	Inam.	
		RS.	AS.
Bhaváni	Bhaváni	1,265	
	Jambai	1,550	
	Kavundapádi	2,000	
	Salangapálayam	2,000	
			6,615
Nerinjipettai	Nerinjipettai	201	
	Pippil	349	
			900
Kávéripuram	Kávéripuram	900	
	Kolatúr	500	
			1,400
Simpalli	Simpalli	794	794
Andiyúr	Andiyúr	1,266	1,266
Appakodal	Appakodal	413	413
	Total ..		11,388

Revenue Administration.—The taluk is of the fifth class; for staff, see Appendix.

Judicial.—For judicial staff, see Appendix. The taluk is in the jurisdiction of the Erode District Munsiff. There is a Special Sub-Registrar at Bhaváni.

Public Works.—The taluk is under the Assistant Engineer at Erode; his charge in the taluk is the chain of tanks known as the Appagudal series, and public buildings, of which the taluk cutcherry is the only present specimen. The Erode Taluk Overseer also works in this taluk.

Education.—The taluk is in the northern division Deputy Inspector's range; apart from elementary schools there is absolutely nothing in this taluk. There is a combined system school at Bhaváni now being developed by amalgamation with a good private school at the request of both masters and inhabitants; this teaches up to the fourth standard. Other schools are very petty.

Local Funds.—The public works of this department are directly in charge of a Supervisor whose head-quarters are at Bhaváni. There are 47 miles of road under maintenance in this taluk. The only bungalow (formerly the Collector's house) is that at Bhaváni close to the temple at the confluence of the rivers; there is a dirty shed at Andiyúr, and a European room in the Kavundapádi chattram. For Local Fund chattrams, see Appendix.

A dispensary has been opened at Bhaváni, and is badly accommodated in the yard at the back of the cutcherry. At present it is in charge of a Civil Apothecary. There are two vaccinators, who have some difficulty, especially the one in the north, in obtaining many subjects for operation, owing to the wildness of the country and the

people; the lymph difficulty is a considerable one in villages among or separated by jungles.

Leased markets are as follow :—

Place.	Day.	Rent for 1882-83.	Total amount of leases to 31st March 1882.	Total expenditure to 31st March 1882.	Assets on hand 31st March 1882.	Standard sheds.	Wells.	Trees.	Establish- ment.	
									Sweepers.	Water sup- pliers.
Kavundapādi ..	Wednesday ..	Rs. 610	Rs. 2,548	2,608	40	3	2	96	1	1
Būthapādi ..	Tuesday ..	525	2,580	2,067	513	2	1	224	2	1
Mailambādi ..	Saturday ..	810	4,429	3,434	995	4	2	368	2	1
Tirupār ..	Friday ..	842	1,064	540	508	..	1	78	1	..
Andiyār ..	Monday ..	641	1,345	735	610	..	..	160	3	1
Dalavāypettai ..	Tuesday ..	360	932	725	207	..	..	162	2	..
Sāmpalli ..	Thursday ..	81	170	31	139	..	..	27	1	..
Kāvérīpuram ..	Monday ..	85	166	26	140	..	..	11	1	..
Total ..		3,454	12,334	10,172	3,152	9	6	1,126	13	4

Unleased markets are as follow :—

Attāni ..	..	..	..	..	Thursday.
Olagaḍam ..	..	..	..	..	Wednesday.
Sennampatti ..	..	..	..	..	Saturday.

There is no Municipal town in this taluk.

There is a post office at Bhavāni only; the mail arrives at Bhavāni at 9 A.M. from, and leaves about 3 P.M. for, Erode. Roads are not very good except in good weather, being fair-weather roads on the plains and rough in the passes. They traverse the taluk in convenient directions, all converging at Bhavāni, except that portion of the Erode-Satyamangalam road which touches the south of the taluk.

At Bhavāni town there are two fine masonry bridges, one of twenty-six arches across the Cauvery from Salem, built at a cost of about two lakhs, and the other of nine arches from Bhavāni across the Bhavāni river to the Erode taluk. These are tolled, and the toll farm is rented at an annual rate of Rs. 1,330 and 1,975 respectively; the Cauvery bridge is also tolled on the Salem side, it being arranged that carts paying at one end pass free at the other. These bridges are of immense use, especially in the months of flood from June to January. The main road from Madras to the Nilgiris passes over these bridges, but through traffic

is now rare owing to the railway. The large travellers' chattram at Bhaváni is now of little use, and part of it has just been given over to the combined school noted above.

Avenues are poor as usual.

Ferries are as follow :—

River.	Villages on both sides.		Number of roads.	Number of boats.		Rent of ten years.			Usual season.	Remarks.								
				Large.	Small.	Maximum.	Minimum.	Average.										
Cauvery.	Káveripuram ..	Nagamadam ..	}	One for every ferry.	One for every ferry.	Rs. 761.	Rs. 616.	Rs. 485.	From May to December.	Villages on the other side of the Cauvery belong to Salem district.								
	Tirumangulam ..	Solapadi ..																
	Pudupatti ..	Thippampatti ..																
	Nerinjipettai ..	Pélanpatti ..																
	Chottypatti ..	Emmandr ..																
	Kollapatti ..	Pommanmadam ..																
	Simpalli ..	Thippampatti ..																
	Navapatti ..	Kolamaikampatti ..																
	Ammapettai ..	Kolampatti ..																
	Chinnapalliam ..	Pulanpatti ..																
	Singampettai ..	Nedungulam ..																
	Sularanthampatti ..	Konaripatti ..																
	Kosarimangulam ..	Káveripatti ..																
Kudilappanallur ..	Kalvadangam ..																	
Sannyasipatti ..	Pullagovendan- patti ..																	
Urachikottai ..	Pullanpatti ..																	
Bhavani.	Thippochettypálai- yam.	Elavamalai ..	}															
	Jambai ..	Chinnapuliyár ..																
	Chinnapuliyár ..	Jambai ..																
	Vairamangalam ..	Oricheri ..																
	Oricheri ..	Vairamangalam ..																
	Kavundapadi ..	Peruntalalyér ..																
	Appakudal ..	Do. ..																
	Kuthampundi ..	Mevani ..																
	Kilvuni ..	Do. ..																
	Mangalpatti ..	Ammapálaiyam ..																
Kuppandampálai- yam.																		
Attani ..	Soundapoor ..																	

There is no railway or telegraph in this taluk ; Erode is the nearest station.

Irrigation.—Except one tank in Mugáipudúr, supplied by drainage water from the Attavaneiputhúr channel, the whole irrigation is from rain-fed tanks, chiefly in the Appagudal series. The lands of the first-named tank are classed in the second group ; those of the other tanks in the third group. Baling is also resorted to from the Bhaváni river, and is fairly good, though the soil is somewhat water-logged in the lands near the ancient where the river is banked up and the lands low. The river is perennial and the lift usually easy, so that good crops are grown.

The following table gives information ; inam holdings are included :—

	Ayacut.		Holdings.		Waste.	
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Andiyūr tank.	440	2,982	397	2,737	43	246
Gettisammudram 2 tanks.	250	1,595	240	1,570	4	25
Batūr do.	5	28	6	28	..	..
Bāthapālī do.	20	95	20	95	..	..
Mughaipudūr do.	43	180	40	175	3	14
Ādikulam do.	64	344	64	344	..	..
Talakulam do.	13	67	13	67	..	..
Vempatti do.	189	1,167	162	991	27	176
Brahma-desam 3 tanks.	131	798	111	678	20	120
Punkōlī do.	51	316	49	309	2	10
Assnapettai do.	9	45	9	45	..	..
Appakōtal do.	33	206	28	177	5	29
Kōttampūndi do.	24	152	21	131	3	21
Odāturali 2 tanks.	122	849	119	822	4	27
Chinnapaliyūr do.	10	65	10	65	..	..
Puthūr do.	12	29	..	..	12	29
Nabalūr do.	45	115	45	115	..	..
Ilippi do.	3	8	3	8	..	..
Odāturali Bhavāni channel	4	38	4	33	..	..
Attavani-puthūr jungle stream ..	15	63	15	63	..	..
Total ..	1,486	9,146	1,363	8,450	123	696

The irrigated lands are only 1·13 per cent. of the total occupied area, and are only watered from the rain-fed tanks in the north-east monsoon.

The Ennamangalam tank has just been repaired by Government at a cost of Rs. 19,000 and is estimated to irrigate 300 acres. There are several other ruined tanks and anicuts over jungle streams which would probably pay for restoration ; in some cases applications have been made by ryots to be allowed to repair the tanks under the rules.

There was originally only a single assessment for all crops, and the ryots have therefore compounded at one-fourth rate for the whole wet area. It is obvious that this points to an expectation that a second crop would be raised pretty frequently, not perhaps of paddy, but of ragi or cholam, etc.

There was a celebrated project for extending Cauvery irrigation by the Nerinjipettai anicut ; this is an ancient native structure which used to irrigate land on both sides of the Cauvery, but breached in the eighteenth century (Buchanan). Sir Arthur Cotton revived the scheme, partly to develop irrigation, partly to tame the then unembanked Cauvery by relieving it of flood waters, a matter still of importance as floods are higher now than before ; that of July 1882 was the highest ever known within the memory of man, and that of November 1880 was only second to it. The scheme has been condemned for the present, but it is possible that it may hereafter be revived with advantage.

The following table gives the average assessment and jamabandi of occupied Government wet lands for a series of quinquennia :—

Quinquennial.	Channel.			Tank.			Jungle stream.		
	Holding.	Jamabandi.	Difference.	Holding.	Jamabandi.	Difference.	Holding.	Jamabandi.	Difference.
1271-76 ..	Rs. 527	Rs. 527	..	Rs. 7,479	Rs. 4,797	Rs. 2,673	Rs. 28	Rs. 28	..
1276-80 ..	314	314	..	7,932	5,272	2,660	53	43	10
1281-85 ..	..	..	..	7,219	3,779	3,431	51	45	6
1286-90 ..	33	33	..	7,666	5,880	1,786	61	54	7
1291 ..	33	33	..	8,507	3,161	2,436	63	63	..
1292 ..	33	33	..	6,795	4,912	1,883	63	63	..

This table shows that the tank irrigation is somewhat precarious; before the new settlement, however, much wet land was really unirrigable, and the assessment was regularly remitted.

Wells in gardens (ayan) are as follow; statistics were not collected in time for wet and inam lands:—

Class of lands.	Good wells.			Lifts.	Lands under good wells.		Area actually irrigated.	Wells in need of repair.	Area under wells in need of repair.
	In use.	Not in use.	Total.		Area.	Assessment.			
Ayan gardens only ..	3,241	417	3,658	4,526	ACRES. 22,366	RS. 25,255	ACRES. 10,931	430	ACRES. 2,566

Agriculture.—There is no material difference between this taluk and the neighbouring one of Erode in the matter of dry and garden crops; a little ragi is grown on dry lands near the hills, and, as in one or two of the northern villages of Erode, sunn hemp (*Oratolaria juncea*) is grown in some of its southern villages. Seneci-kilangu (*Caladium nymphaifolium*) is grown to some extent near Bhavani, some roots attaining a weight of 70 or 80 lb., and 25 lb. being common.

Wet lands grow ragi and paddy, and there is but a small area of special crops. The south-west monsoon is better in Bhavani than in Erode, and its kambu crop is seldom a failure; the dry lands too are less worn out. Crops and seasons are tabulated below:—

Crops.	Dry.	
	Sowing time.	Reaping time.
Kambu	July-August	October-November.
Ragi	June-July	Do.
Cholam	October-November	February.
Cotton	June-July	Next year.
Gingelly	March to May	August.

Crops.	Garden.	
	Sowing time.	Reaping time.
Kambu	July and August	October-November.
Ragi	June and July	Do.
Cholam	October-November	March.
Gingelly	March to May	August.
Tobacco	January or November	July-March.
Chillies	September	December to March.

Pasture is abundant and cattle are numerous and fairly good. The Bargur breed is well known, partaking of the Mysore characteristics; the Alambádi breed is also raised at Kávéripuram and other villages in the north. For details of these breeds, see "Agriculture" *sub* *loc.* "Stock."

Other industries are of little importance; gunny is prepared to a considerable extent in the villages where it is grown, and cotton carpets are particularly well woven and dyed at Bhaváni, the Cauvery water being found especially valuable towards the brilliance and fastness of the dyes (*vide* "Industries").

Professions are hardly represented except by the lowest classes in all branches; there is, however, a Kázi at Bhaváni under the Act.

There is a moderate trade in forest produce, and áváram bark from the several jungles is largely collected and exported for tanning purposes. Natural products are rural and forest only; manufactures are gunny, carpets, common country cloths and wares.

Principal Places.—Bhaváni (Bhaváni-kúdal), at the confluence of the Cauvery and Bhaváni, is now a place of importance merely by reason of its sacred position, which attracts large numbers of pilgrims, especially from Pálghát. The temple of Sangama (confluence) Iswara is situated at the end of the tongue of land at the actual confluence, the bathing gháts occupying the extreme point of the rock; deaths by drowning at this point, when the rivers are high, are occasional.

It is related that four asuras attempted to steal a vessel of nectar (amritam) presented by Vishnu to a devout rishi (Parasa Muni); the latter prayed to Vishnu, who sent kális; these slew the asuras and guarded the nectar. At the close of the rishi's devotions the nectar was found to be solid, and was at once worshipped by the Muni as "Amrita lingam." Several rishis are related to have attained salvation after bathing at this sacred confluence.

The place was formerly selected as the head-quarters of the Collector, who had charge of part of Salem, and the bungalow was built by Mr. Garrow. On the removal of the district head-quarters to Coimbatore in 1805 the town lost its chance, and has never since been more than a halting-place for through traffic and for pilgrims. The town is full of Brahmans attached to the temple; other residents are the usual

attendants of a temple and their descendants. It bears no good name and is full of petty intrigue and cabal.

Kávéripuram is a large village in the extreme north; this has a large number of resident Canarese Brahmans.

Nadukával or the "middle guard" is the village where the road enters the Kollegal taluk; it was a chauki where the customs were collected and a guard placed to prevent smuggling and incursions from Mysore, and also to protect travellers. There is now a chattram and a police station (occupying more or less of the chattram); in Buchanan's time a man was paid to supply milk, etc., to travellers. The road is not much used now except for foot traffic.

Andiyár is a considerable village near the foot of the Bargúr ghát.

Bargúr itself is a village in a valley amongst the hills; it is of no importance.

The London Mission have a branch station at Bhaváni under a catechist. The Coimbatore Roman Catholic Mission have stations at Nágulár, Nerinjipettai and Sámpanli.

DHÁRÁPURAM.

This large taluk, in the south of the district, forms part of the subdivision; it is bounded on the south by the Madura district, on the east by Karúr, on the west by Palladam and Udampet, and on the north by Erode, from which it is separated by the Noyil. Its survey area is 837 square miles. It is an undulating plain sloping generally eastward towards the Cauvery, but with a local watershed near Kángyam falling to the Noyil on the north and the Amarávati on the south. These two rivers, especially the Amarávati, which has an extensive valley, drain the taluk into the Cauvery. The former is only occasionally in flood, the latter pretty constantly, but at very varying heights from May to March. There are two or three petty hills, of which Sivanmalai is alone noteworthy as a landmark and a sacred place.

The climate is tolerably good, April and May being much less oppressive than in Erode or Karúr; by the end of May the south-west monsoon dispels the heat by the violence of its winds. Dhárápuram is immediately opposite to the Pálghát gap, and the wind is furious during June and July, it being often impossible to pitch a tent, while the dust penetrates everywhere. But the climate is then healthy and tolerably invigorating. The north-east monsoon proves more trying to native constitutions, especially from November to February, during which time heavy mists and chill winds are frequent and fever prevalent; as in the district generally, this is also the season for cholera.

The rainfall is very inconsiderable and is chiefly in the north-east monsoon; in 18 years it has averaged only 19 inches per annum.

The soils are gravelly, stony, and sandy, with the usual loams in bottoms; the surface of the south of the taluk is largely composed of limestone more or less agglomerated, as especially in the west. Buchanan specially remarks on the immense fields of calcareous tufa which "in some places cover the surface of the ground in continued masses." The calcareous strata are often many feet thick and "involve small masses of quartz and other stones" which they probably gathered in rolling over the surface while soft and fluid.

The lime and salts in the soil greatly aid well cultivation, especially that of tobacco; saltpetre and earth salt used to be regularly prepared, but are now less frequent. There is no black cotton soil in this taluk. The soil is generally poor in appearance and of low productive power to judge by the crops over a series of years. For classification of soils and assessment, see "Revenue Settlement."

The density of the population is 233 per square mile; the occupied area per unit is no less than 2.39 acres as against a district average of 1.55 and an Erode average of 1.52. This is due to the great area, moderate population, and moderate assessment, which allows large areas of poor land to be held for grazing the numerous cattle.

A peculiarity of this taluk is the immense inam area; all temples have land allotments instead of money payments as in the northern division, and hence one reason for the large area; the Madura Government was also more liberal in such grants than the Mysore Government, especially the Mussulman, which had a greater hold of the northern taluks.

The aquamarine was largely found at Padiyúr or Pattálai near Kángyam in the beginning of the century, but it is said that the mine is exhausted. Corundum is found near Kángyam and quartz crystals limpid or amethystine; iron is not now made as formerly. There are no natural forests or jungles in or near this taluk, which is singularly poor in trees, except palmyras and the commonest jungle timber; nor is it so well hedged as Erode and Karúr; in the tracts about Dhárápuram hedging is rare and the formation of jungles will be expensive and difficult. Hedges and belts of trees would be peculiarly useful in this wind-swept tract; lands are now being reserved for jungles, and there were nurseries of fruit and timber trees at Kángyam and Dhárápuram, from which were distributed thousands of fruit seedlings.

Wild animals are practically *nil*; there are a few antelope near Dhárápuram, and hares, quail, and partridge are fairly abundant.

The domestic breeds are more noteworthy than those of the ordinary taluks, the Kángyam breed of cattle and ponies being widely known. The quality and renown of the breeds are attributed (1) to the extent and quality of the pastures, (2) to the presence of heads of the Vellála caste (pattagárs), who use their very considerable wealth in cattle-breeding. The Pálayakottai pattagár (*vide* "Goundans") has large herds of cattle and ponies, the best of which are exported. These ponies were

much in demand when there were no roads and all traffic was by pack bullocks or ponies along bridle-paths (*cf.* transport of grain and treasure during the Mysore wars and even afterwards), and when the poligars required numbers of hardy ponies for their retainers; but with the introduction of metalled roads and a settled government the demand has died out, carts being cheaper and robbery no longer a profession. For the number of cattle, etc., *vide* Appendices. The statistics are taken from the quinquennial returns; the figures are much below the actuals. An investigation of the condition of ryots for remission purposes in this taluk disclosed the presence of large numbers of cattle and sheep, and taluk tours show that cattle are tolerably abundant.

The population is 195,232; for further details, see section on population, religions, castes, occupations, etc.

There are no special tribes in this taluk. Tamil is the universal language, with Hindustani among the Muhammadans and Telugu among particular castes.

The villages are more evenly sized than in Erode, and are 82 in number with numerous hamlets; they are tabulated as follow:—

Size of villages.	No.	Size of villages.	No.	Houses.	No.	Hamlets.	No.	Puttaks.	No.
<i>acs.</i>		<i>ms.</i>							
Under 500	..	Under 500	..	Under 100	5	Under 5	17	Under 50	2
Do. 1,000	3	Do. 1,000	8	Do. 200	18	Do. 10	17	Do. 100	13
Do. 2,000	10	Do. 2,000	16	Do. 500	11	Do. 20	29	Do. 200	20
Do. 3,000	9	Do. 3,000	13	Do. 1,000	40	Do. 30	17	Do. 300	16
Do. 4,000	6	Do. 4,000	8	Above 1,000	10	Above 20	2	Do. 400	13
Do. 5,000	9	Do. 5,000	12					Do. 500	8
Above 5,000	45	Above 5,000	28					Above 500	5
Total ..	82	Total ..	82	Total ..	82	Total ..	82	Total ..	63

	Number of villages.				
	Dry only.	Wet only.		Wet and dry.	
		Channel.	Tank.	Channel.	Tank.
89	10	3	

Villages.	No.	Villages.	No.
Under 10 wells	3	Under 50 acres garden	4
Do. 20 do.	3	Do. 100 do.	6
Do. 30 do.	6	Do. 200 do.	8
Do. 50 do.	11	Do. 300 do.	10
Do. 75 do.	11	Do. 500 do.	17
Do. 100 do.	14	Above 500 do.	37
Above 100 do.	35		
Total ..	82	Total ..	82

Occupied Government (ayan) lands are as follow :—

Pashi.	Channel wet.			Tank wet.		
	Area.	Assess-ment.	Average assess-ment.	Area.	Assess-ment.	Average assess-ment.
	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1271	6,320	59,488	9 0 0	450	2,232	5 3 0
1281	6,457	60,442	9 5 7	491	2,534	5 2 10
1291	6,904	61,212	8 13 0	214	1,049	4 14 3
Pashi.	Dry.			Total.		
	Area.	Assess-ment.	Average assess-ment.	Area.	Assess-ment.	Average assess-ment.
	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1271	236,860	3,65,756	0 13 10	243,610	2,87,477	1 2 11
1281	318,648	3,89,559	0 12 0	365,606	3,32,336	0 14 6
1291	330,410	2,70,389	0 11 8	387,528	3,41,647	0 12 0

This table shows how largely the poorer classes of lands have been taken up since 1861, so as to secure the sole right in them for grazing purposes.

Inam lands are as follow :—

Nature of inams.	Wet.			Dry.			Total.		
	Area.	Quit-ment.	Nominal assess-ment.	Area.	Quit-ment.	Nominal assess-ment.	Area.	Quit-ment.	Nominal assess-ment.
	ACS.	RS.	RS.	ACS.	RS.	RS.	ACS.	RS.	RS.
Dévalayam ..	285	89	3,288	34,112	255	20,950	34,398	344	28,337
Brahmadayam ..	545	1,552	6,065	24,092	4,767	16,342	24,837	7,319	22,437
Watershed ..	..	..	..	2,130	26	1,425	2,130	26	1,425
Pulivan ..	3	24	40	16	2	12	19	26	52
Nanthavanam ..	3	..	24	260	8	200	203	8	224
Mosque ..	7	..	103	73	..	62	70	..	165
Astrologer ..	..	..	..	29	3	20	29	3	20
Village sibbandi ..	203	165	2,074	16,980	721	12,735	17,183	886	14,810
Total ..	1,046	1,830	11,624	78,692	6,782	53,847	79,738	8,612	67,471

No payments are made in money either from the treasury or from village collections.

The value of lands is lower in Dhárápúram than in some taluka, owing partly to the smaller pressure of population upon area, partly to the distance of the taluk from large towns and the railway; much land is also of very poor quality. The average assessed area per head of population is 2·5 acres. When waste lands are scarce, the value per acre for common dry land is often Rs. 25 to 30 per acre even at a distance from any special markets.

The next table shows registered transactions in land since 1876-77 :

Years.	Sales		Mortgages		Leases.	
	Above Rs. 100.	Below Rs. 100.	Above Rs. 100.	Below Rs. 100.	Perpetual.	Ordinary.
1876-77	279	21	225	2	1	15
1877-78	268	29	276	30	..	11
1878-79	374	41	325	17	..	33
1879-80	354	129	367	120	1	30
1880-81	339	134	362	126	..	26
1881-82	422	206	374	161	..	43
1882-83	392	241	426	200	1	29

Administration.—Dhárápúram is a third-class taluk ; the Tahsildar's head-quarters are at Dhárápúram, where there is a second-class standard catcherry.

There are 23 circles, called hoblies, not now much used. For the sake of convenience 3 villages in the south-west are under the Deputy Tahsildar of Aravakurohi (Karúr taluk) both in revenue and magisterial matters. The villages being generally large, there are often several Monigars and two Karnatus to a village ; the former usually divide the village into ranges, each Monigar collecting in his own division only.

Judicial.—For judicial staff, see Appendix.

For civil work 45 villages on the north and east of the taluk are under the Karúr District Munsiff ; 37 in the south and west are under the District Munsiff of Udamalpet.

There are Special Sub-Registrars at Dhárápúram and Kángyam ; they will shortly be provided with offices.

Public Works.—The taluk is in the range of a sub-divisional officer of the rank of Supervisor, whose head-quarters are at Udamalpet ; his charge is that of certain irrigation works and public buildings. There is a good bridge near Dhárápúram over the Uppár, an affluent of the Amarávati, at the junction of the roads from Palladam, Tirupúr and Kángyam.

Forests.—There are no forests in this taluk, and proposals are only now being made for the reservation of lands for artificial jungles. The ryots are dependent on pastures and fodder crops for the food of their cattle during the hot weather, and the hedges, acacias and wild shrubs give a good deal of goat fodder, fuel and common timber. Palmyras are tolerably plentiful, especially near Kángyam, Velleikovil and Málánúr.

Local Funds.—For the purpose of Local Fund public works the taluk is under a Supervisor whose head-quarters are at Karúr. Market sheds, bungalows, chattrams, and a dispensary are the only Local Fund buildings. Roads chiefly occupy the care of the department. For list of chattrams, etc., see Appendices. There is a good Local

Fund dispensary at Dhárápúram close to the cutcherry. There are three vaccinators.

Leased markets are as follow :—

Place.	Day.	Rent for 1882-83.	Total amount of leases to 31st March 1882.	Total expenditure to 31st March 1882.	Assets on hand 31st March 1882.	Standard sheds.	Wells.	Trees.	Establishment.	
									Sweepers.	Water-suppliers.
Dhárápúram ..	Tuesday ..	Rs. 1,010	Rs. 5,427	Rs. 4,433	Rs. 994	4	..	514	4	2
Málanūr ..	Wednesday ..	450	2,277	2,289	12	2	1	154	3	..
Kiranūr ..	Do. ..	..	209	80	120	..	..	..	..	..
Uthiyūr ..	Sunday ..	..	349	161	198	..	..	..	..	..
Uttamapálaiyám ..	Friday ..	..	688	925	237	1	..	..	..	..
Málmugam ..	Saturday ..	..	204	111	93	..	..	..	..	..
Nelali ..	Tuesday ..	..	330	109	221	..	..	..	..	..
Muthūr ..	Saturday ..	980	2,370	2,412	42	2	1	123	1	1
Kángyam ..	Monday ..	1,110	5,445	5,468	23	4	1	156	4	1
Vallakavil ..	Sunday ..	810	1,219	988	233	2	1	157	1	1
Paranjurivali ..	Do. ..	..	50	1	49	..	..	..	..	..
Sattakalliyūr ..	Wednesday ..	..	84	50	34	..	..	..	..	..
Total ..		3,760	18,652	17,015	1,037	15	4	1,098	13	5

There are no Municipalities in the taluk.

For post offices, see map.

Roads are numerous and tolerably good. In addition there are the usual village roads and lanes (itteries), some of which are much choked by prickly-pear and are becoming impracticable for carts.

Avenues are in very poor condition owing to the hardness of the soil, the violence of the wind, and the lack of trees generally. Good pitting and the transplanting of two-year-old hardy trees suited to the soil, especially such as neems from the nurseries at Dhárápúram and Kángyam and other places, are essential.

Ferries are as follow :—

River.	Villages on both sides.	Rent of ten years.			Usual season.
		Maximum.	Minimum.	Average.	
Anaravati.	Dhárápúram	Rs. 400	Rs. 125	Rs. 220	July, August, October and November.
	Pollanthurai	90	25	61	
	Sálothurai	85	11	26	
	Neufkallipálaiyám ..	..	..	..
Kolinjivádi .. ..		..	..	..	..
Alangyam .. ..		..	..	..	..
Aravakuruchi road ..		..	..	..	..

There are eleven other ferries leased below Ra. 10 on an average of years.

Irrigation is confined, save in the case of two tanks, to channels from the Amarávati in the south and east of the taluk. The following table gives information :—

	Ayan.				Ayan holdings.				Inam.				Circular waste.			
	Two crops.		One crop.		Two crops.		One crop.		Two crops.		One crop.		Two crops.		One crop.	
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
Nanjai Talaiyár channel.	4,09.	83.	2,18.	83.	1,03.	83.	1,03.	83.	4,09.	83.	2,18.	83.	1,03.	83.	1,03.	83.
Sundatapalayam do.	124	504	129	573	121	511	129	580	124	504	129	573	121	511	129	580
Kolinjivádi do.	791	7,416	5,308	15,820	322	4,317	2,312	10,500	791	7,416	5,308	15,820	322	4,317	2,312	10,500
Dhuvaparnam do.	1,223	12,680	1,101	11,480	318	11,040	1,103	10,970	1,223	12,680	1,101	11,480	318	11,040	1,103	10,970
Dalavayaparnam do.	350	2,940	312	2,375	171	1,804	308	2,880	350	2,940	312	2,375	171	1,804	308	2,880
Alampayam do.	640	4,200	303	2,730	329	2,620	300	2,700	640	4,200	303	2,730	329	2,620	300	2,700
Total	3,411	37,807	4,300	38,000	2,534	27,540	4,372	33,704	3,411	37,807	4,300	38,000	2,534	27,540	4,372	33,704
Kattangáni tank.	—	—	143	800	—	—	80	443	—	—	143	800	—	—	80	443
Kongúr do.	—	—	120	300	—	—	100	300	—	—	120	300	—	—	100	300
Total	3,411	37,807	4,300	38,000	2,534	27,540	4,372	33,704	3,411	37,807	4,300	38,000	2,534	27,540	4,372	33,704

The irrigated area is only 1·80 per cent. of the occupied land. The Amarávati irrigation is of very good quality. Nothing is known as to the possibility of extending the irrigated area, so far as this depends on the surrounding levels, which have not been taken. But, as is everywhere the case in this district, the quantity of water entering the channels is really far more than is needed for the present area, although the tail villages occasionally experience a lack of water; the want of good field sluices and regulation accounts for this deficiency. "In four villages" says Mr. Wedderburn regarding the Nanjai-Talaiyár, etc., channel, "there are 320 open cuts of all dimensions and not a single masonry sluice, the result being an enormous waste of valuable water." A detailed inspection of this channel shows that there are more so-called built sluices, but that most of them are rough stone, just a shade better than open cuts (see Appendix).

The channels are not in good and clean condition owing to the non-combination of the ryots for kadi-marámat. They are apt to fall very low in September between the monsoons and after December.

Channel and river banks are nowhere planted with trees or bamboos, although possible in many parts. The Kolinjivádi channel is divided by a dam near Kolinjivádi into three separate channels, viz., Kolinjivádi, Virájimangalam and Nilambúr.

The Kattangáni tank, fed from the Náyil by an ancient, gets a supply several times during the year, and is seldom dry; two crops, the first being usually kambu, are regularly raised. The Kongúr tank in the extreme south is of little importance.

The following table shows the average assessment and jamabandi of ayan lands for a series of quinquennia :—

Quinquennial.	Channels.			Tanks.		
	Hold- ing.	Jama- bandi.	Differ- ence.	Hold- ing.	Jama- bandi.	Differ- ence.
	RS.	RS.	RS.	RS.	RS.	RS.
1271-75	60,198	55,499	- 4,699	2,223	1,455	- 768
1276-80	60,228	56,081	- 4,147	2,237	1,389	- 848
1281-85	60,683	56,247	- 4,436	1,850	1,259	- 591
1286-90	60,734	57,463	- 3,271	1,247	1,029	- 218
1291	61,214	62,198	+ 984	1,046	608	- 438
1292	61,300	62,566	+ 1,266	1,041	1,231	+ 190

The number of wells, with other particulars, is as follows:—

Class of lands.		Good wells.			Lifts.	Lands under good wells.		Actual area irrigated by wells.	Wells in need of repair.	Area under wells in need of repair.
		In num.	Not in use.	Total.		Area.	Assessment.			
Dry	Ayan ..	8,000	719	8,719	11,081	ACRES. 72,909	RS. 68,710	ACRES. 41,856	2,774	ACRES. 20,840
	Inam ..	970	113	1,083	1,208	15,464	12,379	4,529	403	4,988
Wet	Ayan ..	23	15	38	33	164	927	64	10	25
	Inam ..	3	1	4	3	8	52	3	..	..

They are of less depth as a rule than those of Erode.

Agriculture.—(See chapter on "Agriculture"). The chief crops on dry lands are three and four year cotton, kambu, cholam, gingelly, and pulses; on garden lands cholam, kambu, ragi and tobacco; on wet lands paddy, ragi, sugar-cane, and plantains.

The chief crops and their seasons are tabulated as follows:—

Crops.			Dry.		
			Sowing time.		Reaping time.
Cholam .. ..	..	..	April-May .. ..	..	August.
Kambu .. ..	..	..	August .. ..	..	November.
Thenai .. ..	..	..	Do. .. ..	..	Do.
Samai .. ..	..	..	October .. ..	..	December.
Gram .. ..	..	..	Do. .. ..	..	March.
Gingelly .. ..	..	..	May .. ..	..	August.
Varagu .. ..	..	..	October .. ..	..	December.
Tovani .. ..	..	..	August .. ..	..	February.
Bengal-grass .. ..	..	..	November .. ..	..	Do.
Uppam-cotton .. ..	..	..	October .. ..	..	March.
Nadam do. .. ..	..	..	August .. ..	..	July, &c.

Crops.	Garden.	
	Sowing time.	Reaping time.
Cholam	November	February.
Kambu	May	July.
Thamra	August	November.
Tobacco	November	February.
Garlic	Do.	March.
Chillies	August	November, &c.
Sweet-potato	Do.	January.
Common seed	December	February.
Ragi	August	November.
Crops.	Wet.	
	Sowing time.	Reaping time.
Paddy—		
Koldi	July	October.
Kuruvai	August	November.
Annedamm	August-September	December.
Samba	September-October	January-February.
Ragi	July	September.
Sugar-cane	February-March	Next year.
Plantain }	July	Three years standing (plan-
Sugar-cane }		tains).

The dry crops are not as a rule remarkable; in the Kángyam division cholam and gingelly are cultivated to some extent with the rains of April-May, but often fail. Gram is usually successful, being grown in the north-east monsoon, chiefly when rain is pretty certain; the lime soil appears to suit the pulse crops. In 1881-82 the crops of South Dhárápúram were very fair although the rainfall was much less than in Erode, where they were practically a failure; this was due to the whole of the rain coming in the north-east monsoon, when cholam and gram were chiefly grown. Tobacco is good, but rather coarse. Fodder crops are grown in parts of this taluk, especially Kángyam, where the cattle are better bred. A crop of cholam or kambu, chiefly the former, is sown thickly on garden lands usually in February, irrigated, and cut before earing.

Trees, except palmyras, are few; jaggery and toddy are largely produced, especially in the Kángyam and Málánúr neighbourhoods. Other fruit trees are almost entirely absent, but a large number of fruit seedlings were lately grown in Government nurseries, and many were given away gratis, such as pomegranates, pamplemuses, jacks, mangoes, etc. There are a few pamplemuses near Kángyam which give good fruit; one tree (the property of a female who jealously guards it, selling the fruit, it is said, even to her husband), being renowned throughout the taluk; unfortunately its fruit has no seed.

Pastures, though not of good quality, are fairly abundant in this taluk.

For an account of the Kángyam breeds, see chapter on Agriculture, *sub voc.* "Stock."

Industries other than agricultural are practically *nil*; jaggery and sugar are made to some extent, and there are the usual local manufactures of cloth, carts, pots, bricks, and so forth. Trade is considerable only at Dhárápuram. Professions, save those of the officials, the priesthood, a few native doctors, schoolmasters, and some private vakils, are almost unrepresented. There is a Kázi at Dhárápuram.

Trade.—Bazaars are found in 12 villages. As usual, the weekly markets are the centres of trade, cattle chiefly changing hands at Kángyam, Velleikovil, Gundalam Mélmagam, Muttúr, Múlanár, Dhárápuram and Uthiyúr.

From the license tax returns it appears that only 56 traders obtain a net income of over Rs. 500 per annum and only one above Rs. 5,000.

Products are merely rural produce, cloth being almost the only manufactured product.

Principal Places.—Dhárápuram, within a few hundred yards of the Amarávari, is said to be very ancient and has the remains of a fort which was several times taken during the wars with Mysore. The town nearly disappeared, but was rebuilt after 1799 upon plans drawn up by Mr. Hurdle, who made it the head-quarters of the southern division. It was also for a few years the seat of the Zillah Court, transferred to Coimbatore in 1828. It is a large well-built town with good streets and a fair trade in country produce, but no special industry. An irrigation channel runs through the town; a sanitary establishment is provided by Local Funds and a good dispensary; there is also a middle school and seven elementary schools. Roads from every quarter converge at Dhárápuram. The Roman Catholic Mission has a station here, and the Wesleyan Mission has also recently begun work. There is a good weekly market.

Kángyam, 21 miles north of Dhárápuram, for some years the Sub-Collector's head-quarters, is now only the station of a Deputy Tahsildar. It is a healthy village, tolerably elevated on a dry gravelly soil. There is no authentic record of its ever having been of much importance, the name having probably nothing to do with Kongu; the Kongu rajahs had their capitals elsewhere so far as anything is known. Local pundits derive the name from Gángayan (son of Gangai), which is the appellation under which Subbramania is worshipped at Sivanmalai. The Sub-Collector's office has now been converted into a Sub-Magistrate's cutcherry, police station, and sub-jail. The public bungalow adjoins this building. The place is best known for its large weekly market, second only to Polláchi, or perhaps Kunnattúr.

Sivanmalai, 3 miles north of Kángyam, is a hill surmounted by a temple of some resort.

Velleikovil on the Karúr road, 12 miles east from Kángyam, is a well-to-do village with a good travellers' bungalow and chattram.

There is a good market here also. Four miles north of Velleikovil is the Nattaráyan temple, one of the indigenous shrines frequented chiefly by ryots, but also by people of all classes and castes for intercessory and sacrificial purposes.

Many of the villages along the irrigation channels are important, such are Dalaváypatnam, Álangayam and Kolinjivádi. There are no other places of special importance.

There are no special diseases in this taluk, which is on the whole healthy except for ague fever in the cold weather.

Cholera is apt to attack Dhárápúram town, and the severest outbreak in the district in 1881-82 was here, chiefly among Labbais and lower castes. Small-pox has several times appeared in sudden village outbreaks during the last three years, and on the whole vaccination is not so well worked as in some other taluks. Guinea-worm is very prevalent.

ERODE.

Erode is a large taluk in the north-east of the district, comprising the old Perundurai and Erode taluks; it is bounded on the north by the Bhaváni for about 2 miles until it joins the Cauvery at Bhaváni; the Cauvery bounds it on the north-east and east and separates it from the Tiruchengód taluk of the Salem district; on the south it is bounded by the Noyil river, which separates it from Karúr and Dhárápúram taluks; on the west by Palladam taluk; and on the north-west and north by the Satyamangalam and Bhaváni taluks respectively. The bench mark at the Kalingaráyan head sluice is 534 feet above sea level, that at the Noyil 412·48, the distance being 32 miles in a straight line; hence a gradual fall south-east and south of 3·79 feet per mile. The whole taluk also slopes east and south-east towards the Cauvery, into which all streams eventually fall, whether direct, as the Karungalpallam, or indirectly by the Noyil. The following table gives the fall from Úttukuli, 22 miles south-west of Erode:—

Locality.	Height above mean sea level.			
Úttukuli Railway Station	979·06
Perundurai do.	831·56
Erode do.	540·70
Karúr Railway Bridge	391·85

The area is 600 square miles.

The surface of the country is a gently undulating plain, broken, parallel with the Madras Railway, by a slight ridge, the peaks of which are Channimalai (1,749 feet), Arachalur and Elamathur; there are also several small isolated hills.

Its chief rivers are the Bhaváni, Cauvery and Náyil, besides numerous drainages such as the Karungalpallam, which crosses the Kalingaráyan and Púgalúr channels near Unjalúr and falls into the Cauvery; these drainages cross the Kalingaráyan and fall into the Cauvery between the Bhaváni and the Náyil. The Karungalpallam is notorious for its violent floods; one at the end of 1880 rose 8 feet above the floor of the aqueduct by which it crosses the Púgalúr channel, and so destroyed it that the repairs have cost Rs. 14,000. The various drainages as elsewhere in this district are liable to heavy floods owing to the undulating surface, which gathers all surface flow into streamlets and then into torrents.

The Erode climate is trying near the Cauvery, the valley of which is very hot and close; the south-west monsoon which, through the Pálghát gap, refreshes the district, is heated and fitful in Erode, where periods of calm alternate with dust-storms and gusts of wind. In the west, however, where the country is higher, the climate is cooler and healthier, the tracts about Perundurái and Chengampalli being convenient resorts in April, May, June and September. There is no record of the temperature of this taluk; its winds are those of the rest of the district.

For rainfall, see Appendix.

Perundurái is the locality most favoured by rain; towards Erode it is somewhat less, while on the west, especially the parts bordering on Palladam, the fall is very scanty.

The geology is that of the rest of the district; its soil is everywhere largely calcareous, even the disintegrated gneiss yielding lime which has infiltrated from above. Excellent felspar suitable for potting is obtainable almost everywhere. Iron used to be smelted from the black sands of surface streams, especially near Chennimalai (Buchanan), the stones of which are highly ferric; the price of charcoal is now too high to permit of smelting, and the iron at the markets comes generally from other taluks. Asbestos (kal-nár, but not fibrous gypsum also called kal-nár) is occasionally found, and is used medicinally.

Building stones are good and cheap everywhere; a quarry at Púsárikumáragoundanúr near Úttukuli railway station, supplies excellent stone for important railway works. Brick clays are occasionally good, and when care is taken in working, clay from the wet lands makes first-class table bricks, such as those employed for the Sub-Collector's cutoherry. Potters' clay for the ordinary porous earthenware is procurable from tank-beds, etc.; no good potting materials except quartz and felspar exist.

Soils are all red; there is no black cotton tract, and the only dark soils are in the beds of tanks, and in wet fields where the red soil has changed colour owing to continuous manuring with vegetable matter. Eighty per cent. of the taluk is red sand, the rest being red loam with 1 per cent. of so-called black soils.

Except the fine wet lands under the Kalingarayan and garden lands, the taluk is of poor soil; some gardens are of great value and productiveness, especially where a town, as at Erode, gives plenty of manure and a good market. The uplands are very poor as a rule, the best part of the soil having been washed into the bottoms and thence largely to Trichinopoly and Tanjore; pasture lands are rare. Hence the ryots are generally poor and have no large herds of cattle. For details as to areas of the various soils, see Appendix. The unoccupied arable lands are of comparatively small extent; some villages have none.

There are no forests or jungles; the country is everywhere well hedged and tolerably provided with common trees, but is not so well wooded as appears from a view on the level. Palmyras are fairly plentiful; reserves for fuel trees and fodder are being (1883-84) selected.

Trees and crops are those of the ordinary dry lands; fruit trees, except palmyras and a few coconuts near wells, are rare; even tamarinds are scarce. Chillies and tobacco, the latter especially in the southern parts of the taluk, grow well in gardens in the cold weather; sunn hemp is grown in the neighbourhood of Tingalur, where excellent gunny is made.

Fauna are simply the ordinary domesticated animals and very few ferre; an occasional panther descends from Satyamangalam; hare, partridge and snipe are pretty plentiful. Horses are not bred in this taluk, nor are cattle to any extent, pasture lands being of small area.

The language is generally Tamil, with Telugu among certain classes.

The villages are of such different sizes that an average area cannot be usefully given; the following table gives various particulars:—

Size of villages.	No.	Size of villages.	No.	Houses.	No.	Hamlets.	No.	Puttaks.	No.
ACS.		sq.							
Under 500	33	Under 500	51	Under 100	53	Under 5	126	Under 50	46
Do. 1,000	58	Do. 1,000	59	Do. 250	67	Do. 10	44	Do. 100	63
Do. 2,000	61	Do. 2,000	47	Do. 500	37	Do. 20	22	Do. 200	61
Do. 3,000	25	Do. 3,000	15	Do. 1,000	15	Do. 30	5	Do. 300	23
Do. 4,000	14	Do. 4,000	13	Above 1,000	7	Above 30	3	Do. 400	8
Do. 5,000	5	Do. 5,000	9					Do. 500	1
Above 5,000	14	Above 5,000	18					Above 500	7
Total..	210	Total..	210	Total..	210	Total..	210	Total..	210

The next table groups the villages into wet and dry:—

Number of villages.				
Dry only.	Wet only.		Wet and dry.	
	Channel.	Tank.	Channel.	Tank.
181	2	..	29	18

The next table groups the villages according to their garden cultivation, an item of the utmost importance as affecting the ryots:—

Villages.		No.	Villages.		No.
Under 10 wells ..	41		Under 50 acres garden ..	61	
Do. 20 do. ..	32		Do. 100 do. ..	33	
Do. 30 do. ..	33		Do. 200 do. ..	56	
Do. 50 do.	38		Do. 300 do. ..	28	
Do. 75 do.	27		Do. 500 do. ..	19	
Do. 100 do.	15		Above 500 do. ..	15	
Above 100 do. ..	24				
Total ..	210		Total ..	210	

The value of lands in Erode has long been high owing to the pressure of population, prior to the famine there having been many villages without an acre of Government waste, as indeed is still the case; there are 326 persons per square mile as against a district average of 253; for ordinary dry lands near Erode Rs. 20 per acre is a common price. Prices will be found in the chapter on "Economic condition."

The following table shows the number of mortgages, sales, and leases, registered since 1876-77 under Act III of 1877:—

Years.	Sales		Mortgages		Leases.	
	Above Rs. 100.	Below Rs. 100.	Above Rs. 100.	Below Rs. 100.	Perpetual.	Ordinary.
1876-77 ..	252	28	206	9	2	31
1877-78 ..	361	53	475	18	..	46
1878-79 ..	296	61	428	18	..	36
1879-80 ..	343	185	519	260	..	50
1880-81 ..	343	259	617	539	..	116
1881-82 ..	370	345	604	604	2	122

As elsewhere shown, the registered number of transactions below Rs. 100 has increased since 1877 owing to the new law on the subject; the increase is not merely in the transactions, but in the registration of transactions.

Occupied Government lands are as follow:—

Pali.	Channel wet.			Tank wet.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessments.
	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1284 ..	7,803	69,492	10 15 4	1,599	9,682	6 1 0
1291 ..	7,909	98,553	12 7 4	914	6,208	6 12 8
1292 ..	7,000	98,387	12 7 8	925	6,310	6 13 2

Faali.	Dry, including garden.			Total.		
	Area.	Assess-ment.	Average assessment.	Area.	Assess-ment.	Average assessment.
	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1281 ..	283,224	3,87,762	1 0 0	297,723	3,83,938	1 4 8
1291 ..	268,365	2,80,478	1 1 4	267,188	2,85,239	1 7 1
1292 ..	281,739	2,84,068	1 1 4	270,564	2,88,905	1 7 0

Inam lands are given below :—

Nature of Inam.	Wet			Dry.			Total.		
	Area.	Quit-rent.	Noninal assessment.	Area.	Quit-rent.	Noninal assessment.	Area.	Quit-rent.	Noninal assessment.
	ACRES.	RS.	RS.	ACRES.	RS.	RS.	ACRES.	RS.	RS.
Déradāyam ..	173	726	2,431	4,667	1,275	5,367	4,660	2,001	7,788
Brahmadāyam ..	240	1,148	3,460	7,386	1,918	8,818	7,629	3,093	12,087
Dharmadāyam ..	43	166	400	1,280	264	1,499	1,323	420	1,905
Kāci ..	8	12	73	527	78	612	535	90	635
Revenue sikhundi ..	279	330	4,832	13,320	1,560	14,283	13,706	1,890	19,115
Total ..	843	2,372	11,211	26,929	5,095	30,360	27,772	7,407	41,580

The temple inams in the northern division, of which Erode is part, are paid in money, not by land grants as in the southern division.

The following table shows the money grants payable since 1879 from village collections and not from the treasury :—

Dévastānam.	Village.	Inam.	Dévastānam.	Village.	Inam.
		RS.			RS.
Petundurni ..	Village ..	1,075	Dalaviypālaiyam ..	Village ..	350
Chennimalai ..	Do. ..	1,750	Murungatolayam.	Do. ..	385
Ūtakuli ..	Ūtakuli 600	1,225	Ingūr ..	Do. ..	350
Tadupādi ..	Chengapādi 725	512	Adiyār ..	Vellam-jatti 200	385
	Tadupādi 250			Sundakapālaiyam 135	
	Alipālaiyam 262	543			
Sināparam ..	Village ..	567	Erode ..	Erode ..	2,027
Vadanungam Vel- lode.	Do. ..	525	Modakurichi ..	Do. ..	266
Nasandūr ..	Do. ..	525	North Kalamann- galam.	Do. ..	206
Kanjikōvil ..	Do. ..	650	Aval Pāndurai ..	Do. ..	424
Vyāpuri ..	Do. ..	439	Elamētūr ..	Do. ..	350
Toranavei ..	Do. ..	464	Sivagiri ..	Do. ..	1,225
Tingalūr ..	Do. ..	396	Kodunudi ..	Do. ..	1,050
Kumattūr ..	Do. ..	253			
Arachalūr ..	Do. ..	293			
Muklai Anu- vampādi.	Do. ..	293			
				Total ..	16,562

Administration.—Erode is the head-quarters of the Sub-Collector, and is a second-class taluk; the taluk outcherry, of the standard second-class plan, is a handsome stone building, conveniently situated, and, by the taste of Tahsildar M. Venentaramanier, surrounded by a pleasant tope of coconut and other trees.

The taluk is divided for collection purposes into twelve circles; the remittances from the villages in each circle are due on dates fixed for each circle between the 16th and 27th of each month from November to April.

Owing to the small size of some villages a single village officer occasionally has charge of several villages; on the other hand, some being very large have several Revenue Monigars and occasionally two Karnams. In the approaching revision the village establishment will be systematized.

The death and birth registration of the taluk is badly performed; the registers, even of head-quarter villages, have been found to contain less than half the actuals.

Judicial.—For judicial staff, see Appendix. Erode is the head-quarters of the police sub-division in charge of the Assistant Superintendent. For details, see "Police." There are two Sub-Registrars, viz., in Erode and Perundurai.

Public Works.—Erode is the head-quarters of the sub-division now in charge of an Assistant Engineer; only irrigation works and public buildings are under his care; the latter are the two outcherries, Munsiff's court-house, police stations, Sub-Collector's, Engineer's and Assistant Superintendent's bungalows, the middle school house, and the Deputy Tahsildar's office at Perundurai.

Education.—The middle school at Erode is of the first grade and is now under the Municipality, whose funds are credited and debited with the receipts and charges. The elementary Municipal school is flourishing and well accommodated. For further details, *vide* chapter on "Education."

Local Funds.—The taluk is attached to the division of the Supervisor, whose head-quarters are Karūr. Markets, public bungalows, and chat-trams are all Local Fund buildings. Roads are the chief occupation of the establishment, and avenues with three exceptions have now been handed over to them. There are good second-class travellers' bungalows at Perundurai and Chengampalli, but none at Erode; that at Sittode is a one-roomed building, no longer used. The bungalows have no furniture except a table and one or two chairs. There are no Local Fund dispensaries. Vaccinators are two—one first-class, head-quarters Erode, and one second-class, head-quarters Perundurai; a probationer is also usually at work in the neighbourhood of Chengampalli (*vide* "Vaccination").

Leased markets are as follow :—

Place.	Day.	Rent for 1892-93.	Total amount of leases to 31st March 1892.	Total expendi- ture to 31st March 1892.	Assets in hand 31st March 1892.	Sheds.	Trees.	Wells.	Establish- ment.	
									Sweepers.	Water- suppliers.
Perandurai ..	Tuesday ..	na.	na.	na.	na.					
Kanakapuram ..	Sunday ..	1,262	5,136	4,516	621	3	160	1	10	10
Utukuli ..	Wednesday ..	1,163	8,030	5,789	2,299	20	120	1	32	12
Kunnattūr ..	Monday and Tuesday.	330	2,070	2,339	260	0	20	1	1	1
Tingalūr ..	Thursday ..	1,706	15,125	8,960	4,658	4	200	1	4	12
Vijayamangalam ..	Wednesday ..									
Chennimalai ..	Friday ..	495	1,900	1,662	328	1	21	1	1	..
		163	930	416	562	1	40	1	2	..
		380	2,128	1,267	772	2	50	1	2	10
Total ..		5,627	35,597	23,000	8,960	16	551	7	14	10

Besides these, there are 11 unleased markets as below :—

Place.	Day.	Place.	Day.
Váypádi ..	Wednesday.	Unjalūr ..	Tuesday.
Arachalūr ..	Thursday.	Kodumudi ..	Monday.
Elamáttūr ..	Monday.	Sittode ..	Wednesday.
Modakurichi ..	Wednesday.	Nasiandr ..	Saturday.
Malayampálayam	Saturday.	Sinápura	Friday.
Sivagiri ..	Friday.		

Municipalities.—Erode Town is a Municipality; it has good schools, dispensary, large market with sheds, a sanitary staff headed by an inspector, a vaccinator, and a registrar of births and deaths. The roads are in fair order. For other details, *vide* "Municipalities."

Communications.—The river Cauvery is somewhat used for traffic from above Bhaváni downwards; passengers and light freight are taken in basket boats when the river is in flood; no details are available.

There are two railways with stations as follow :—

Madras Railway.					South Indian Railway.				
Station.	From		To		Station.	From		To	
	M.	T.P.	M.	T.P.		M.	T.P.	M.	T.P.
Erode	Madras Railway 241st mile.	Between 6th and 6th posts.	270th mile.	Between 4th and 5th posts.	Erode	South Indian Rail- way 310th mile.	Between 6th and 7th posts.	335th mile.	15th post.
Perundurai					Pásúr				
Utukuli					Unjalūr				
					Kodumudi				

The taluk is well provided with roads; for details, see district table in the Appendix.

Avenues are poor as everywhere in the district; the Erode-Karúr road is perhaps the best provided. Ferries are tolerably numerous; the following table gives particulars:—

River.	Villages on both sides.		Rent of ten years.			Usual season.
	Coimbatore district.	Salem district.	Maximum.	Minimum.	Average.	
Cauvery.	Erode	Pallipalaiyam ..	Rs. 809	Rs. 258	Rs. 682	From May to the end of December.
	Vendipalaiyam ..	Odappalli	166	30	89	
	Lakkipuram ..	Kohurampatti ..	100	25	40	
	Kongayampalaiyam ..	Pullúr	79	10	25	
	Paotr	Solasiramani ..	300	42	104	
	N. Kilambódi ..	Elambelli	100	11	33	
	N. Kolanalli ..	Araampalaiyam ..	74	18	36	
	Unjalúr	Paramatti	55	20	32	
	Kodumudi	Poodumangalam ..	225	42	111	
	Avadiappáral ..	Konthuni	68	10	18	
	Talaváypalaiyam ..	Samasungali ..	120	0	45	
	Kalamangalam ..	Eramangalam ..	170	36	90	
	Vengambúr ..	Iyampalaiyam ..	50	11	26	
	Total ..		1,760	744	1,331	

Irrigation.—Irrigation is (1) direct from channels, (2) from tanks fed by channels, (3) from tanks supplied by rain-fed surface or jungle streams.

Under the first class are the Kalingaráyan and Págalúr channels; the latter, which has its head near Unjalúr, irrigates Karúr taluk, only a few acres in Erode being supplied by baling on its right bank. The Kalingaráyan runs entirely in the Erode taluk at present, though it used to run on into Karúr across the Náyil by an aqueduct and into the Amarávati near Karúr (Buchanan and local traditions); traces of it are still to be met, and a project is now in hand for its restoration. For a large part of the year there is a considerable surplus into the Náyil, benefiting the Págalúr channel, which should have an abundant supply of its own; a regulation of the Kalingaráyan sluices, which are no less than 1,840 in number, would give a large supply at the present tail. As it is, the various large drainages from the fields are often torrents, and there are scores of smaller drainages. In 1800 the channel was in poor repair, and, owing to war, over-assessment, and paucity of population and capital, cultivation extended no further than Kolanalli, the total area irrigated being only about 3,500 acres (Buchanan). The left bank is artificial up to the tail, the other natural. Its head is near Bhaváni at Anainásivanpálaiyam ancient near the Bhaváni bridge, and just above the junction of the Bhaváni and Cauvery. By custom it is closed from about the 1st April to 1st June for clearance and repairs. The head sluice has six vents with a total sectional area of 157 square feet; the vents are closed by screw-shutters. The depth of water in front of the vents is 12·19 feet when the river is full, and about 11·89 feet on the rear floor. When flowing full, the channel head being clear

of silt, the actual depth at the road bridge 200 yards below the head sluice is 5 feet; the width of the channel at the sluice is 55 feet, its sectional area being 420·87 square feet; at the aqueduct at the fourteenth mile, which is 40 feet wide with perpendicular walls and flat bed, the maximum depth is 2·40 feet; many right bank lands above Pilamedu are not irrigable by direct flow till the channel measures at least 1·80 feet at the aqueduct. It is estimated that 38·96 cubic yards per second pass into the channel when flowing full, a quantity sufficient, according to Public Works Department calculation, to irrigate 46,752 acres instead of 8,866 acres (including inam lands) as at present. The total length of the channel is 60 miles and the total fall about 122 feet, giving an average fall of 2 feet per mile. It has seven sand sluices, viz., at the first, second, third, sixth, ninth, and sixteenth miles.

Escapes for jungle streams are nine in number, at the third, ninth, fifteenth, twenty-fifth, thirty-fourth, thirty-sixth, thirty-ninth, forty-first and forty-seventh miles. A new sand sluice, the sill of which is 2 feet below the sill of the head sluice, has now been built at a cost of Rs. 7,547, just in front of the head sluice; it is expected that this will prevent the accumulation of silt, which, especially after heavy freshes, is at present a source of much annoyance and expense. In 1882 silt accumulated to such a degree that the channel only ran three-fourths full below the first sand sluice when the apparent depth at the head sluice was 6 inches above high water level. It is crossed by 42 natural drainages. These drainages are sources of great trouble and danger, owing to the suddenness and violence of floods and the quantity of sand brought down by them. The sluices are 1,840 in number.

It will be seen that there are about 31 sluices per mile on an average, an absurdly large number, and that the average area per sluice is only $4\frac{1}{2}$ acres. Of these only 690 are masonry, the rest being either rough stone culverts, pabuyra troughs, or open cuts; the two former may be seen from the very head of the channel, and are sources of much danger and waste. The orifices of the sluices are usually large, so that the channel is seriously drained long before it reaches even Pásár. The evils of this are discussed *sub hoc*, "Irrigation."

The left bank is occasionally planted, chiefly with palmyras, but much more might be done after the fashion of Tanjore banks. The right bank is bordered by fine trees in parts, but the land is generally used for gardens irrigated by baling. The right bank is not however fully utilized either for trees or gardens, except near Erode and villages. The channel being fed by the Bhaváni, is at its fullest from its opening in June till September; it is apt to be slightly lower in that month, but again runs full to the end of January, from which time it gradually decreases till the end of March. In February and March the Tahsildar has continually to be on the alert to see that each village gets its due supply in turn, and that the upper villages do not get all the water. No fixed rule can be laid down as to turns, as they depend on the state

of the channel. The first crop, consisting usually of kuravei or annathánam paddy, is sown in July, the previous month being occupied in watering, ploughing, and manuring the lands and in growing the seedlings. This crop is reaped in October, and the second crop, at once transplanted from nurseries; this is usually samba paddy and is cut in February, March and April. There is no double-crop land in the first and last three miles. There is a channel establishment as entered below; these are paid by the Tahsildar from a customary cess; they attend to the opening of the escapes in time of heavy rain and flood, and also regulate the supply to the fields according to orders. Besides this revenue establishment, there is a Public Works Department establishment for the care of the head sluice and channel.

Revenue Establishment.	No.	Pay of each per month.	Public Works Establishment.	No.	Pay of each per month.
		RS.			RS.
Monigara	4	8	Water Registrar ..	1	8
Pooná	12	4	Niráni	2	5
Nirgantla	48	3	Pannádi	2	2½

Two special cesses, seyyál and chekkúrani, are levied for the water establishment and are credited to Irrigation Cess Fund. Seyyál is not levied in the first 11 miles of the channel. The amounts in Fasli 1290 were Rs. 511 and 3,399 respectively.

In the second class there is only one tank, Vadugapálaiyam, 3 miles south of Úttukuli railway station on the Kángyam road; it is a small tank fed by an ancient and short channel from the Nóyil; it is also rain-fed, and is seldom entirely dry. It is usually cultivated with a first crop of ragi or arisi kambu and a second of paddy. The following table gives area and assessment:—

Tank.	Ayacut.		Holdings.		Waste.	
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Vadugapálaiyam	126	630	116	682	10	48

The tank is much in need of repair, chiefly in the way of raising and strengthening the bund.

The third class comprises tanks of which the names, area, and assessment are given in the following table:—

Tanks.	Ayacut.		Holdings.		Waste.	
	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Teemungam Vallôda, large	91	804	124	1,055	4	27
Vadamugam Vallôda, small	37	278				
Nanjel Palatolavu	209	1,711	177	1,495	32	216
Dalavôpâlaiyam	43	302	38	270	6	32
Orikat Periapâlaiyam	108	785	103	750	6	35
Puthôr-Pallapâlaiyam	80	807	72	541	8	50
Vadamugam Kûngayampâlaiyam	40	284	35	244	5	28
Sundakampâlaiyam	163	1,072	86	500	77	482
Chempalli	15	130	15	130	..	..
Vellativull	26	154	26	154	..	..
Kavutampâlaiyam	31	155	27	135	4	20
Kunnattôr	69	394	69	394	..	..
Punjel Palatolavu	11	66	11	00	..	..
Aval Pândurai	23	114	21	102	2	12
Tôyyam Pândurai	20	103	10	52	10	51
Morathupâlaiyam	3	15	3	15	..	..
Agrahârapariapâlaiyam	96	558	88	328	8	30
Total ..	1,085	7,322	905	5,325	160	999

The nominally irrigable area has been diminished by the settlement to suit actuals; since that time Pândurai tank has hopelessly breached; its lands have long been covered with prickly-pear, and the assessment is regularly remitted. Palatolavu tanks are fed by the Nallâr, a large jungle tributary of the Nôyil; there is said to be a project for bringing a channel from the Nôyil, but levels have not been taken; if possible it would be very desirable. The drainage of the country from Kunnattôr south to the Nôyil is partly intercepted by several tanks. For many years these tanks, notably Kunnattôr and Puthôr-Pallapâlaiyam, have not properly filled even in years of good rain; for reasons, see chapter on "Irrigation."

The following table shows the average assessment and jamabandi of ayan lands for a series of quinquennia for all the sources of irrigation, the jamabandi being the demand as settled after granting or refusing remissions:—

Quinquennia.	Channels.			Tanks.		
	Assess-ment.	Jama-bandil.	Difference.	Assess-ment.	Jama-bandil.	Difference.
	RS.	RS.	RS.	RS.	RS.	RS.
1277-80	86,342	83,444	898	8,558	4,680	3,678
1281-83	80,607	86,300	367	7,538	3,869	3,729
1286-90	91,622	88,784	2,738	6,695	4,931	2,364
1291	95,553	94,468	4,085	3,512	1,455	2,057
1292	98,587	97,810	1,977	5,945	3,903	2,042

All irrigated lands are tabulated as follow :—

	Channel.									
	Direct flow.				Baling.				Total.	
	Two crops.		One crop.		Two crops.		One crop.		Area.	Assessment.
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.		
Ayan lands	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Holdings	7,750	98,587	268	1,467	16	109	8	30	8,042	1,00,183
Inam lands	7,611	97,032	266	1,449	16	109	8	30	7,901	99,106
	822	11,820	2	9	..	..	..	..	824	11,829
Total	8,572	1,10,407	270	1,466	16	109	8	30	8,566	1,12,012

	Tank.						Total.	
	Two crops.		One crop.		Total.		Area.	Assessment.
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.		
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Ayan lands	1,091	7,310	3	15	1,094	7,331	9,136	1,07,514
Holdings	922	6,269	3	15	925	6,284	8,326	1,05,396
Inam lands	96	621	..	..	96	621	920	12,460
Total	1,187	7,937	3	15	1,190	7,952	10,056	1,19,964

Of the channel-fed area, 8,436 acres are on the left bank and 430 on the right, the natural fall being to the river on the left.

Wells.—The number of wells with other particulars is as follows :—

Class of lands.	Good wells.			Lifts.	Lands under good wells.		Actual area irrigated by wells.	In Wells used of repair.	Area under wells in need of repair.
	In use.	Not in use.	Total.		Area.	Assessment.			
					ACRES.	RS.	ACRES.		ACRES.
Punjai— Ayan ..	9,998	1,689	11,685	13,435	56,442	72,063	35,494	3,889	19,355
Inam ..	576	132	708	818	6,032	7,319	2,235	251	1,840
Nanjai— Ayan ..	196	76	272	157	616	4,579	262	28	57
Inam ..	17	2	19	16	68	291	19	1	1

Agriculture.—(See chapter on "Agriculture"). The chief crops are in dry lands, kambu, cholam, pulses, oil-seeds, cotton and other fibres ; in

gardens, chillies, ragi, cholam, kambu and tobacco; in wet lands, paddy, ragi and gingelly; sugar-cane and plantains are not extensively grown. Turneric, yams, and sweet-potatoes are grown in garden lands, especially near Erode. The only fruits grown are pomegranates, especially near the railway, coconuts on wet lands in topes and in gardens in rows along the water-courses, plantains and tamarinds; mangoes are very rare. Sugar-cane is only grown on 50 or 60 acres per annum. Palmyras are plentiful and yield toddy, jaggery, sugar, and nuts in large quantities. There are also a few pumplinoses, oranges and limes. The jujube (*Zizyphus jujuba*, *elenthei*) is plentiful near Kunnattôr; there are very few other wild fruits except the prickly-pear, which grows in masses. The season for wet cultivation under the channel has been described under the head of irrigation, viz., from June to March.

The cultivation under tanks varies considerably; under some tanks, e.g., Dalaváypálaiyam, the ryots do not grow crops unless there is a full supply; in others, e.g., Puttárpallapálaiyam, which have not filled for years, the ryots have dug wells and cultivate crops such as sugar-cane the whole year round. The reason is that if a tank is usually well supplied the ryots will grow nothing but paddy, and if the year is not fully prosperous they grow nothing rather than dry crops; when it is seldom supplied, wells are dug, and then are worked all the year round. Garden crops are usually two, the sowings being ordinarily in June-July and October-November, the former being ragi or kambu, and the latter cholam, tobacco, etc. A crop of cholam is also often grown in the hot weather.

Crops and seasons are tabulated below:—

Crops.	Dry.	
	Sowing time.	Reaping time.
Kambu	July-August	October-November.
Samai	Do.	Do.
Cholam	Do.	Do.
Ragi	Do.	Do.
Gingelly	April-May	August-September.
Cotton	June-July	Next year, October.
Gizam	September-October ..	January-February.
Crops.	Garden.	
	Sowing time.	Reaping time.
Kambu	May-June	August-September.
Cholam	November-December ..	March-April.
Ragi	May-June-July	September-October.
Turneric	June-July	February-March.
Sweet-potato	September-October ..	Do.
Gingelly	April-May	August-September.
Tobacco	November-December ..	May-June.
Chillies	July-August	November to April.

Crops.	Wet.	
	Sowing time.	Reaping time.
Annathanam	June-July	October-November.
Vellai-kuruval	September-October	December-January.
Mulagi	July-August	January-February.
Kartigai samba	November-December	April-May.
Turnerie	June-July	February-March.
Plantain	Do	Next year.

The dry crops of Erode are usually poor; the taluk has always been widely cultivated, so that the land has had no rest; rainfall is variable and partial, cattle are not abundant, and population is large, so that the surface soil (and there is but scanty soil on the uplands) is exhausted for want of sufficient manure, most of which goes to the gardens; kambu is generally poor, cholam seldom otherwise; the cotton outturn is wretched in quantity and quality. No greater contrast, save between garden and ordinary dry crops, can be seen than between the ordinary upland crops, especially in a year of poor rainfall, and the very same species of crop on a piece of newly-reclaimed or well-manured land. In 1291, a year of drought, there was an opportunity of making the contrast, the well-manured dry land in the most prominent case belonging to a Pariah and having an excellent cholam crop, while surrounding fields had practically *nil*. The ryots are perfectly aware of the reason, and allege want of capital and pasture (*vide* "Agriculture").

For pasture the ryots depend upon the public lands and the grazing of their fallow and cotton lands; a field sown with grass for pasture is rare in this taluk, chiefly owing to the large population, which, in a community where flesh eating is not very common, necessitates a large area filled for grain. For this reason cattle are not much bred for sale.² There is a fair amount of pasture from the above sources for half to

² In the chapter on agriculture it has been pointed out *vel* *rec.* "Stock" that the number of cattle and sheep has been much understated for this district. Erode taluk is a glaring case in point, as will be seen by the following table which is taken from the returns given in by Karmama, compiled by a gumbastah in the taluk office, and sent as a jamaabandi report statement to Coimbatore:—

Faali.	Cattle.	Cows.	Buffaloes.	Sheep and goats.	Ploughs.	Harnes.	Ponies.
1291 ..	3,405	8,000	2,870	32,700	16,000	28	400
1292 ..	3,261	7,880	2,840	14,400	18,000	28	400

The absurdity of the statement need hardly be pointed out. The area under actual cultivation in Faali 1291 was 285,623 acres, and if all the cattle were adult plough bullocks, the 1,702 pairs would each have ploughed 168 acres with 9 ploughs; there are 10,372 wells in full use, with 14,253 lifts, each requiring at least one pair of bullocks, which, however, assist in the ploughing; each garden has at least one pen of sheep and goats averaging 20 each.

three-fourths of an ordinary year according to the rainfall ; the clippings of trees and hedges and the weeds from the fields aid at least the sheep and goats, while the chola, ragi, and paddy straw usually suffice for the cattle.

Industries.—The chief industries besides agriculture are cart building, stone quarrying, well digging, potting and brick making, a little iron smelting, weaving, chunam burning, and saltpetre making ; there are also the ordinary carpenters and workers in iron, brass, and the precious metals. Cart building is active in Erode town ; it is also found occasionally elsewhere. Stone is quarried in many places, chiefly by Wudders ; that for the Cauvery bridge is found near Uttakuli railway station and is of good quality. Common grindstones of gneiss are cut in the Cauvery bed and in many other places. The Wudders are the only well diggers. Iron smelting is now rare ; in 1800 it was more common in this taluk on a small scale (Buchanan). It is carried on entirely by Pariahs, Chukklers, and Shánars in the non-toddy season. Native charcoal iron is almost exclusively used for tools by the ryots and artisans, and is bought in considerable quantities at the various markets, especially Kunnattár, to which it comes from Bhaváni and Satyaman-galam. Ordinary potters and brickmakers are everywhere found.

Weavers are tolerably numerous (10,663 by census), but are poorly off ; only country coarse cloths are woven and the manufacture is on the decline. The saltpetre industry was considerable, there being a large factory of Messrs. Fischer and Company at Erode ; it has now almost died out from slackness of demand and from the excise restrictions ; it is not now (1884) to be obtained at Erode, but only at Kodumudi.

Professions.—The law is represented by one or two District Court pleaders and by the bar of the District Munsiff's Court at Erode. Medicine has its usual class of followers in addition to the Civil Apothecary ; a native practitioner of the better class lives at Erode, and one at Perundurai. There is a Muhammadan Kázi appointed under the Act at Erode.

Trade.—Bazaars are found in 27 villages. The ryots depend upon the numerous weekly markets for their supplies, and for exchanging goods. The chief centres of trade are the markets (*vide list sub hoc. "Markets"*) ; at these, produce is bought by merchants and brokers from, and salt, cloths, iron and steel, vessels and miscellaneous goods sold to, the ryots. A good deal of produce also changes hands between ryots either by sale or barter ; *e.g.*, tobacco is bartered against cotton, and so forth. A large trade is done in country leather, a corner of the large markets such as Perundurai being almost always odorous with country-

Irrespective of immature and worn-out cattle, and sheep and goats not used in gardens, there must be in the taluk at least 40,000 plough and well cattle, besides cows, and 150,000 sheep and goats.

tanned hides. The produce thus bought is sometimes taken direct to the railway station or to other markets, or is brought to the godowns of the wealthier merchants as at Erode; this town is occasionally, *e.g.*, in February, pungent with chillies, which are brought in immense quantities. The trade in raw produce, salt and cloths is of course the most important. The oil and hide trades have no special centres, but cotton is largely brought into Erode, hand-cleaned in hundreds of houses in that and neighbouring villages, and usually half pressed at Messrs. Fischer's press at Erode. No means exist of estimating the road traffic, but the toll farm of Erode Municipality, which, at two annas per loaded cart, has averaged Rs. 1,607 for the last five years, seems to show that there is not a very large cart traffic even to the chief town and railway station. But the town carts as licensed are 190 in number, and as these do a great deal of local traffic, their work must be added to that arrived at from the tolls. It is not uncommon to see over 100 carts at the large markets, and carts are not rare upon the roads.

Products beyond those mentioned already are not important, except the bark of the white acacia used in distilling, and that of the *Cassia auriculata* (Ávárām), largely used for tanning; this is an excellent bark, and might be introduced to English notice.

Principal Places.—Erode, on the north-east border of the district, close to the Canvey where the Madras Railway crosses it, is the only town of importance it is the Sub-Collector's and taluk head-quarters, and has a Munsiff's Court and middle school. The junction of the Madras and South Indian Railways is here. In Haider's time it was very flourishing and is said (Buchanan) to have had 3,000 houses, equal to a population of 15,000 souls; the fort was often captured during the wars until 1799, at which time it was entirely destroyed, but was rapidly reviving in 1801. It has now 1,886 houses with 9,864 people, and is a flourishing mart. Its trade has been mentioned above.

Other important villages are Perundurai, 11 miles south-west of Erode, with a population of 4,948; the village being central, was the old taluk head-quarters and is now that of a Deputy Tahsildar; Kunnattūr, 12 miles north-west of Perundurai (population 810), with one of the largest markets in the district; Chennimalai, 8 miles south of Perundurai (population 1,946), a considerable hill surmounted by a temple reached by a long stairway, and at the foot of which is a neat village with a decent market; Azachalūr, 12 miles south of Erode, a large village of 5,035 people, scattered however in 38 hamlets over 23 square miles, and containing about 5,005 acres of waste suitable for jungle; Kodumudi in the south-east (population 3,349), a thriving wet village on the Canvey, with a market much frequented by grain merchants and a railway station (South Indian Railway).

The diseases of the taluk are ordinary; there is a good deal of simple fever from October to December. Small-pox has not of late

been prevalent, and in the cholera outbreak of 1881-82 there were no cases in the taluk except one at Erode (a traveller), and a very few on the borders, which were shown to have been imported from Salem; in 1883-84 there were a few cases.

Mission Stations.—A catechist of the London Mission Society has recently been stationed at Erode, and a chapel built near the railway station. Another is stationed at Perundurai. The school at Erode had an average of 55 pupils during 1881, of whom 10 were Christian children.

The Roman Catholic Mission has a church at Erode with a considerable congregation. There are no Roman Catholic schools.

Antiquities.—There is nothing of importance in this taluk. There are small Jain temples at five villages, viz., Vellódu, Tingalúr, Vijayamangalam, Pandurai and Kongavipálayam (Arasamalai); these have small land *mánions* allotted for the use of the priest; there is nothing special about any of the temples. About 16 miles east of Erode, on the Erode-Karúr road, at the village of Kolanalli is a small modern temple of Kottai Máriamman, which is now in great repute amongst the ryots of this and the neighbouring taluks; great numbers of fowls are sacrificed every Tuesday, and at the annual festival on the full moon of Mási thousands of sheep and several hundreds of buffalo calves (male), besides fowls innumerable, are sacrificed by ryots to bring good luck in the coming year, or in satisfaction of vows made in the past year. The fame of the temple is due to an alleged miracle upon the person of a blind man, to whom the goddess is said to have appeared and restored sight a few years ago. The chief temples, with dates of festivals, are given in the district list. For festivals unconnected with temples, *vide* similar list.

A literary society has recently been started at Erode; a decent room has been built and various papers and periodicals taken in; a library will, it is hoped, be gradually formed. There are sixty members, all of whom regularly pay; the lowest subscription is two annas per month to admit of the *gumastah* class joining; it is intended that the room shall form a comfortable resort for evening readers.

There are no toll gates except those of Erode Municipality, and of the bridge over the Bhaváni; the average annual rental of the latter for ten years is Rs. 2,175. The country measure is one of 144 tolahs; there is a special measure called the ancient bullah holding 387 tolahs of rice; it is not now much in use. See the Appendix on "Weights and Measures."

KARÚR.

Karúr is the south-eastern taluk of the district, and is bounded on the north by the Erode taluk, from which it is separated by the Nôyil,

on the west by Dhárápúram, on the south by the Madura and Trichinopoly districts, and on the east by the Cauvery and the Kulitalai taluk of Trichinopoly.

The taluk is an open undulating plain with no hills and only a few rocky extrusions of insignificant size. It is of the regular Coimbatore type, the bulk of it being poor uplands with fertile bottoms and good wet lands along the borders of the river.

The total area is 575 square miles.

The taluk shares in the three rivers Cauvery, Amarávati and Náyil; the Cauvery, which is its eastern boundary, feeds three good channels; the Amarávati traverses it from the south-west, and debouches into the Cauvery at the eastern extremity of the taluk, supplying nine channels within the taluk limits; the Náyil is its northern boundary, but is useless to it for irrigation, except by the Púgalúr channel, which crosses the Náyil by an anicut just above its junction with the Cauvery. The Cauvery is not embanked in this taluk below Vángal, and as the surface of the country is little above its ordinary full level, floods cause considerable damage by the sand which they deposit on the wet lands fed by the Nerúr channel. The banks of the Amarávati in this taluk are fortunately low, so that there is no difficulty in irrigating the lands bordering the river by anicuts and korambus, which are temporary dams of sand and brushwood in the bed of the river (*vide* "Irrigation"). The banks of the Náyil are high and steep, while its floods are very intermittent, so that it cannot be utilized by anicuts or korambus, and even baling is little resorted to. There are no considerable jungle streams except the Kodiganár and Nangánji, which, running from the south, fall into the Amarávati above Karúr town.

The climate is less oppressive than Erode, though very hot from March to June, after which time it is tempered by the south-west winds, and, at Karúr itself, by the irrigation of the surrounding lands.

The soils are of the usual gneissose and quartzose character, with beds of limestone, nodular or agglomerated; towards the south, near Vellianel, Aravakurichi, etc., the surface is little but hard kankar, which, however, produces fair crops. White quartz crops up in many places, especially on the road from Púgalúr to Karúr; a dark grey gneiss (karunkal) of superior quality is quarried about three miles south-west of Karúr, and is in considerable demand for temples and public works even in other districts, which are supplied by rail with pillars, slabs, and square paving stones both cheap and indestructible.

Soils are either red or grey, the former being ferruginous and the latter calcareous; there is no black soil; 7 per cent. of the dry land is classed as red loam and 93 per cent. as red sand; in wet lands about 98 per cent. is red loam and 2 per cent. red sand. The soil of the dry lands is generally inferior, but owing to a rainfall usually more regular and abundant, the crops are not inferior to those of Erode, Bhaváni, Palladam, and Coimbatore.

The unoccupied area is moderate, being 2.08 per cent. of the total Government culturable area. For fuller details and for classification of soils and assessment, see "Revenue Settlement."

There are no forests or jungles, and a beginning of *reboisement* is only now being made. Buchanan in 1800 remarked on the treeless character of the country south of the Noyil; it still has that character to some extent, but is evidently better than it then was after being devastated for fifty years by the incessant ravages of advancing and retreating troops. As the border taluk between Trichinopoly and the then Mysore territory, Karur was the scene of incessant military movements which go far to account for its then treelessness. A great deal of planting both of hedges and trees is still needed; fuel is dear, palmyras scarce, and building timber is brought from Pálghát at great expense; fruit trees are almost entirely absent. Other trees are of the ordinary Coimbatore kind.

Feræ are in no way noteworthy. Wild animals, save jackals, are absolutely extinct; a venturesome leopard (some say tiger) which found its way to some rocks near Karur in 1854 was pluckily killed by the then Tahsildar, M.R. Ry. Billigiri Row (Brahman), who, with sword and dagger, personally attacked it in its lair and slew it, receiving honorable wounds in the conflict. Small game is practically *nil*, save snipe, quail, partridge and a few hares. Domestic breeds are of ordinary value. Their official numbers are entered in the Appendix.

There are no special tribes in this taluk; the language is Tamil, with Hindustani among Muhammadans, and occasional Telugu. The villages are of fairly even and large size; excluding 8 pālaiyapat villages, there are 88 Government villages, distributed as follows:—

		Number of villages.					
Dry only.		Wet only.		Wet and dry.			
		Channel.	Tank.	Channel.	Tank.		
47		1	..	34	3		

Size of villages.	No.	Berla of villages.	No.	Houses.	No.	Hamlets.	No.	Puttaha.	No.
ACRES.		RS.							
Under 500	1	Under 500	..	Under 100	5	Under 5	32	Under 50	5
Do. 1,000	4	Do. 1,000	4	Do. 250	21	Do. 10	22	Do. 100	12
Do. 2,000	19	Do. 2,000	16	Do. 500	32	Do. 20	25	Do. 200	30
Do. 3,000	14	Do. 3,000	21	Do. 1,000	24	Do. 30	8	Do. 300	19
Do. 4,000	15	Do. 4,000	13	Above 1,000	6	Above 50	1	Do. 400	14
Do. 5,000	4	Do. 5,000	14					Do. 500	2
Above 5,000	31	Above 5,000	25					Above 500	5
Total ..	88	Total ..	88	Total ..	88	Total ..	88	Total ..	89

Villages.			No.	Villages.			No.
Under 10 wells	..	16	Under 50 acres garden..	21			
Do. 20 do.	..	5	Do. 100 do.	..	9		
Do. 30 do.	..	7	Do. 200 do.	..	21		
Do. 50 do.	..	9	Do. 300 do.	..	15		
Do. 75 do.	..	20	Do. 500 do.	..	10		
Do. 100 do.	..	9	Above 500 do.	..	12		
Above 100 do.	..	23					
Total ..			88	Total ..			88

Occupied Government (ayan) lands are as follow :—

Faali.	Channel wet.			Tank wet.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.
1281 ..	ACRES. 13,617	RS. 89,538	RS. A. P. 6 9 2	ACRES. 753	RS. 3,701	RS. A. P. 4 14 8
1291 ..	13,291	89,821	6 12 1	819	3,677	4 7 10
Faali.	Dry, including garden.			Total.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.
1281 ..	ACRES. 223,579	RS. 1,71,773	RS. A. P. 0 12 3	ACRES. 242,949	RS. 2,65,012	RS. A. P. 1 1 6
1291 ..	251,322	1,81,555	0 11 6	265,432	2,75,683	1 0 7

Nature of inam.	Wet.			Dry.			Total.		
	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.
Dévastānam ..	ACRES. 864	RS. 64	RS. 6,031	ACRES. 28,004	RS. 643	RS. 19,577	ACRES. 28,868	RS. 712	RS. 25,606
Brāhmadānam ..	264	648	1,964	8,667	1,734	6,126	8,931	2,382	8,090
Dharmadānam ..	68	23	300	1,964	81	1,298	2,032	104	1,658
Revāma sūb-bandī ..	681	280	4,736	14,128	969	10,365	14,879	1,189	15,101
Total ..	1,877	1,015	13,001	52,823	3,372	37,366	54,710	4,387	50,457

No payments are made in money from the treasury or from village collections.

Dévastānam is under a committee of nine members; they are twenty-four in number, the three principal being the Pasupathiswara temple (Siva) of Karūr, and the Thānthoni Venkatarāmanaswāmi and Ranganāthaswāmi (Vishnu) also of Karūr.

The value of lands is considerable owing to the moderate assessment on both dry and wet lands, to the respectable nature of the irrigation, and to the presence of the railway. The wet lands, being at the tail of the Amaravati, are not so highly priced as in Dhárápúram.

The next table shows transactions in land since 1874-75 :—

Years.	Sales		Mortgages		Leases.	
	Above Rs. 100.	Below Rs. 100.	Above Rs. 100.	Below Rs. 100.	Perpetual	Ordinary.
1874-75	277	45	371	7	..	46
1875-76	262	36	443	12	..	57
1876-77	298	51	503	28	..	65
1877-78	300	132	738	250	..	57
1878-79	392	141	707	128	..	63
1879-80	461	224	537	396	..	70
1880-81	453	325	945	720	2	160
1881-82	522	373	1,083	702	..	107

Revenue Administration.—The taluk is a fourth-class taluk with the usual Revenue staff (see Appendix), including a Deputy Tahsildar at Aravakurchi, 18 miles south of Karúr. The size of the villages often requires several Monigars, and sometimes two Karnams.

Judicial.—Karúr is the head-quarters of a District Munsiff, who has jurisdiction over part of Dhárápúram also.

There are Special Sub-Registrars at Karúr and Aravakurchi, for whom offices are now being built. See "Judicial Administration and Police."

Public Works.—The taluk is in the division of the Assistant Engineer stationed at Erode; he has charge of certain irrigation works and public buildings; for details, see "Public Works."

Forests do not exist in this taluk, but lists of lands suitable for fuel reserves are ready.

There is a middle school at Karúr. The Municipal Commissioners have a large school and are erecting a good school-house adjacent to the middle school, which is also under their charge.

Local Funds.—Local Fund public works are immediately in charge of a Supervisor whose head-quarters are at Karúr. There are numerous roads under this department, as well as market sheds, bungalows and chattrams. A minor dispensary was opened at Aravakurchi in 1883. There are two vaccinators.

Leased markots are as follow :—

Place.	Day.	Rent for 1882-83.	Total amount of houses to 31st March 1882.	Total expenditure to 31st March 1882.	Assets in hand 31st March 1882.	Standard shade.	Wells.	Trees.	Establishment.	
		Rs.	Rs.	Rs.	Rs.				Sweepers.	Water-supply.
Aravakurichi ..	Thursday ..	238	1,118	1,098	20	1	..	148	2	1
Pallapatti ..	Monday ..	82	661	211	450	..	..	38	1	..
Nāgumalli ..	Wednesday ..	108	831	263	568	..	1	78	1	..
Soladosampatti ..	Friday ..	55	709	215	494	..	..	58	1	..
Uppidamangalam ..	Sunday ..	1,070	5,705	4,352	1,353	4	1	249	2	2
Chinna Dhārāpuram ..	Tuesday ..	37	478	193	285	..	..	..	1	..
Tennilai ..	Wednesday ..	135	790	151	639	..	1	61	1	..
Punnam ..	Friday ..	..	234	101	133	..	..	..	..	..
Pannamatti ..	Tuesday ..	470	1,053	885	168	1	..	61	1	1
Vellianci ..	Friday ..	155	455	797	—242	1	..	118	..	1
Total ..		2,350	12,084	8,272	3,758	7	3	..	10	6

Unleased markets are Kuppichipálaiyam on Tuesdays, and Punjei Pūgalūr on Thursdays.

Karúr town is a Municipality; it has a good dispensary under a Civil Apothecary, school, sanitary establishment, office, etc.

Post offices are at Karúr, Aravakurichi, Pallapatti, and Vāngal.

The telegraph is that of the railway, and is open to the public at both the stations, Karúr and Pūgalūr.

Roads are numerous and fairly good. There are also numerous village lanes, some passable by carts.

Avenues as usual are very poor.

Ferries are as follow :—

River.	Villages on both sides.		Rent of ten years.			Usual season.
			Maximum.	Minimum.	Average.	
Cauvery, Amaravati.	Karúr	Pannupathipálaiyam ..	Rs. 380	Rs. 90	Rs. 274	July to December.
	Tirumakudal ..	Thirumakudal ..	100	3	30	
	Chinna Dhārāpuram ..	Kanniyādi ..	105	21	35	
	Nerūr	Sundakapálaiyam ..	320	90	203	
	Vāngal	Oruvanthūr ..	710	400	553	
	N. Thottakurichi ..	Mogurūr ..	220	60	143	
	N. Pūgalūr ..	Kalimadu ..	658	200	456	
	Kombupálaiyam ..	Vaifūr ..	320	25	165	
	Vattomangalam ..	Vengarai ..	190	33	63	
		Karakupálaiyam ..				

The South Indian Railway traverses the eastern border of the taluk from the Nōyil to the Amaravati at Karúr; a fine girder bridge of twenty-one arches crosses the latter river.

Stations are as follow ; the entries in the other columns show the section of the railway within the taluk :—

Stations.	South Indian Railway.			
	From		To	
	Mile.	Telegraph post.	Mile.	Telegraph post.
Kartar	291st mile.	7th post.	310th mile.	6th post.
Pagalur				

Irrigation is confined, save in the case of three tanks, to channels from the Canvery and Amarávati. The following table gives information ; inam areas are included :—

Source of irrigation.	Aysent.		Holdings.		Waste.	
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
Chinna Uthirapuram channel.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Pallapillaiyasa do ..	1,897	16,551	1,820	16,173	7	58
Balamaharasin do ..	2,388	21,238	2,667	21,110	28	129
Appakkurayam do ..	771	6,180	771	8,190	..	..
Koyamkulam do ..	868	8,648	868	4,648	4	20
Palliyar do ..	865	8,183	849	4,867	58	260
Nanjai-Kalikumbi do ..	1,375	8,215	1,262	6,182	13	68
Nanjai-Kalikumbi do ..	306	1,829	306	1,823	1	8
Sasapurethi do ..	644	4,321	585	4,277	8	44
Panchamthi do ..	272	1,009	371	1,695	2	16
Nanjai Pagalur do ..	2,050	12,081	2,019	12,021	10	60
Vilogal do ..	1,945	11,459	1,856	11,386	9	76
Nerur do ..	1,668	16,187	1,658	13,287	13	100
Vallanad tank ..	873	1,658	800	1,602	13	50
Uppalamangalam do ..	454	2,016	449	1,990	6	20
Jaguthari do ..	45	214	45	214	..	..
Aravakurthi jungle stream.	140	672	140	672	..	..
Total ..	16,159	1,07,630	15,923	1,06,623	108	608

The irrigated area is only 5 per cent. of the assessed land. The Canvery irrigation is superior to most of the Amarávati irrigation, which however is fairly good, except at the tail of one or two of the lowest channels, which are somewhat uncertain. But many of the lands even

in these villages are of the highest value, notably Sannaparabli, where betel and such crops are largely grown. The tails of the Pallapalaiyam and Panchamadevi channels are sometimes short of water, which has probably led, especially in the former, to the extensive cultivation of ground-nut. As usual, built sluices are the exception, and there is great waste of water even in the worst supplied channels.

The channels are apt to fall very low in September and after December. There is a good deal of baling in this taluk; nanjai lands fed from a drainage channel are occasionally supplied by baling from a low-level channel (*e.g.*, Karir channel lands from Andankovil channel); other lands are classed as baling nanjai, as in the Cauvery channels, and many dry lands are irrigated as gardens by baling from channels (*e.g.*, Pallapalaiyam, &c.). Baling from rivers is almost impossible; from the Cauvery and Amaravati because of their broad padugai, from the Noyil because of its very intermittent supply and high banks, and because the people along its banks are not so enterprising as near towns and large villages, and because water-rate is charged. This latter rate may be done away with as the Noyil is perfectly useless in this taluk.

The channel and river banks might be planted with advantage; ryots here, as elsewhere, would plant channel banks on a cowle. There are two considerable rain-fed tanks, viz., Uppidamangalam and Vellianai, irrigating 454 and 373 acres respectively. The supply is precarious, a paddy crop every second year being about the average, the tanks often receiving a *nil* or very poor supply in alternate years. But the wet lands are usually supplied with wells, which always give a crop of ragi, and, when the tanks fill, ragi is usually the first and paddy the second crop. Special products are not raised under these tanks, and the ryots give no good reason for the neglect, except that they prefer food crops which also give straw for their cattle. The ryots assert that the Vellianai tank might get an unfailing annual supply by diverting a jungle stream from about a mile distance; this is being examined.

The Tadapalaiyam tank, now breached, is to be repaired to supplement the Pallapalaiyam channel in deficient months; its large gathering ground favours this.

The following table abstracts the average assessment and jumahandi of Government wet lands for a series of quinquennia:—

Quinquennia.	Channel.			Tank.			Jungle stream.		
	Holding.	Jumalandi.	Difference.	Holding.	Jumalandi.	Difference.	Holding.	Jumalandi.	Difference.
1281-85	RS. 87,137	RS. 81,503	RS. 5,634	RS. 3,703	RS. 3,915	RS. 212	RS. 2,320	RS. 1,012	RS. 1,308
1286-90	86,976	80,768	6,208	3,578	3,440	138	1,511	676	835
1291	89,130	88,000	1,130	3,575	4,145	570	346	345	..
1292	89,330	88,992	338	3,682	3,832	150	346	316	..

The number of wells is as follows:—

Class of lands.	Good wells.			Lifts.	Lands under good wells.		Actual area irrigated.	Wells in need of repairs.	Areas under wells in need of repair.
	In use.	Not in use.	Total.		Area.	Assessment.			
Dry..	Ayan ..	6,389	746	0,724	7,009	59,459	28,056	17,443	1,350
	Inam ..	911	72	983	642	2,092	2,236	1,498	194
Wet..	Ayan ..	304	71	465	619	1,656	6,091	555	75
	Inam ..	22	38	73	73	201	730	61	16

The area actually irrigated is 6 per cent. of the total assessed area, including inams.

Agriculture.—The chief crops on dry lands are cotton, kambu, cholam, gingelly, pulses, and castor; on garden lands kambu, cholam, ragi, paddy, and tobacco; on wet lands paddy, ragi, betel, sugar-cane, plantains, and turmeric.

These crops and their seasons are tabulated below:—

Crops.				Wet land.	
				Sowing time.	Reaping time.
Kambu paddy	..	..	..	September and October	February and March.
Kuruvai do.	..	..	..	July and August	November and December.
Ragi	..	..	..	Do.	October
Turmeric	..	..	..	July	April.
Sugar-cane	..	..	..	June-July	June.
Ground-nut	..	..	..	July and August	February and March.
Betel-leaf	..	..	..	February	October
Gingelly	..	..	..	April	August
Plantains	..	..	..	December	February (14 months).
Crops.				Garden land.	
				Sowing time.	Reaping time.
Paddy	..	..	..	October and November	March.
Ragi	..	..	..	June and July	September and October.
Cholam	..	..	..	March	June.
Chillies	..	..	..	August and September	December and January.
Tobacco	..	..	..	October	April.
Sweet-potato	..	..	..	Do.	March and April.
Crops.				Dry land.	
				Sowing time.	Reaping time.
Kambu and pulses	..	..	..	July and August	November and December.
Cholam	..	..	..	June	November.
Samai	..	..	..	September	January.
Sesam	..	..	..	August	December.
Thuvareed	..	..	..	June	February.
Gingelly	..	..	..	August and September	December and January.
Howe-grass	..	..	..	September and October	March and April.
Cotton	..	..	..	July-August	April and May.

The crops are pretty good as a rule; the rainfall is more regular than in the Erode taluk and more plentiful than in Dhárápuram. The seasons are the same as in Erode, but gingelly and sholam are extensively cultivated, especially on the east of the taluk, in the south-west monsoon, ripening in October-November. In garden lands paddy is very generally grown as a cold-weather crop, and less often tobacco. On wet lands it is customary to grow either ragi or three months' paddy with the south-west monsoon fresher, followed by samba, Kartigai samba, or karuvei, according to season and the position of the channel and lands. Turneric is only grown on high nanjai lands, seldom on gardens, except occasionally where channel haling is available. Betel is largely cultivated in Sanapareddi near Karúr; plantains are most grown under Canvey irrigation; those of Púgalúr, extending over about 700 acres in Púgalúr village alone, are celebrated, and are largely sent to Madras and other places by rail.

The taluk is poorly wooded; fruit trees, even palmyras, are especially scarce, and even most favorable positions, such as channel banks, damp spots near water, etc., are not utilized; there is one private fuel jungle near Karúr, but this is left to nature and not assisted by plantation; being a rich low punjai near channels and wet fields, it produces babul trees and grass abundantly.

Pastures are fairly abundant, and some are regularly sown and preserved, the usual grass being the indigenous koraikattu. The rate per head varies from 2 to 4 annas per month for cattle according to the richness of the pasture, and 4 to 8 annas for buffaloes, which are considered to eat and damage more than cattle.

Other industries are of no great importance; tanning used to be well represented at Karúr, but has now died out there; it is still carried on at Pallapatti and Nerúr; a little brass ware is made in Karúr, and there are the usual petty manufactures.

Professions are represented by the usual class of officials, priests, vakils (Munsiff's Court and private), schoolmasters and native doctors. There are several men of importance in this taluk, either merchants, landholders, or officials. The first named are chiefly the Chetties (Komatil) and Ravuttars of Karúr and Pallapatti. The chief landholders are the Patti family (Brahman) descended from the family of Purniah, the famous minister of Mysore; the chief representatives of it are to be found at Ándánkovi, Chinna Dhárápuram, Nerúr, and Púgalúr, their united lands, inherited chiefly as grants by Purniah, amounting to many hundreds of acres of nanjai. The Muhammadan family, of which the present police inspector is a chief member, may be noted as an instance of the third class. The Pillais, whose chief representatives are at Karúr and Nerúr, are often well to do.

Karúr town has earned a notoriety in the matter of the right and left hand caste disputes, recently revived; in 1849 and 1861 there were riots which led to loss of life. The chief of the right-hand caste is the so-called "Pattanam Chetty," who is at present a Naidu.

Trade is of some importance; hides, raw and tanned, are imported and exported, and there are well-to-do merchants in cloth, grain, and money at Karūr, Pallapatti and Aravakurchi. A considerable trade in grain and oil seeds finds an outlet by Karūr railway station.

Products are almost entirely rural, save brass ware, leather and common cloths.

Principal Places.—Karūr is a place of great antiquity, and may possibly be the Skandapuram of the old Kongu country; it cannot now be completely identified, as Skandapuram is evidently a Sanskritized name. It was referred to about 110 A.D. by Ptolemy as *Καροῦρα Καροβόρου βασιλείου*, and was evidently a place of importance, as the Cera capital. After the absorption of the Cera by the Chola kingdom, Karūr was still of importance, and was provided with a good stone-built fort which gave some trouble to invaders, its last siege being that by the British in 1790, since which it has been dismantled. A monument to the British who fell in the siege is on the south bank of the river. It is a place of some sanctity, being one of the seven sacred sthalams or Sivalayams of the Kongu country. The principal temple is that of Pasupathiswara Swāmi (Siva), a considerable edifice of some antiquity and with numerous stone inscriptions. The lingam is about 5 feet high and bears a mark accounted for as follows: a cow discovered the buried lingam and bathed it with milk in the fashion customary in these histories; the owner discovering, but not recognising, the piety of the cow, gave it a heavy blow, and the reef of the startled animal striking against the lingam caused the injury. The buried lingam was of course disinterred and provided with a shrine. The Sub-Collector's head-quarters were formerly at Karūr, and his bungalow, on the top of a temple mandapam, is now the public bungalow. It is a rising Municipal town of considerable trade and its chief difficulty is that of extension, owing to its being entirely surrounded by paddy fields and the river.

Aravakurchi, 18 miles south of Karūr, is a Deputy Tahsildar's station.

Pallapatti, 4 miles south of Aravakurchi, is a Labbai village of 1,517 houses, inhabited by well-to-do traders and ryots. The chief villages are Pūgālūr, Vāngal, Nerūr, Koyampalli, Āndānkovil, Uppidamangalam, Vellianai, and Tennailai.

The antiquities of Karūr, apart from its temples, are practically all or unknown.

The Wesleyan Mission has an important station at Karūr, where there are two missionaries. A notable work is being carried out by the Reverend Henry Little in his orphanage, for particulars of which see "Missions." There is a branch with a native pastor at Aravakurchi, and a catechist at Uppidamangalam. The Coimbatore Roman Catholic Mission has several stations, viz., Sanaparedli, Chinna Dhārūpuram, etc.

At Aravakurhi there is a small branch of the Goa Mission (Roman Catholic).

The diseases of the taluk are in no way remarkable; it has been of late very free from small-pox, and its vaccinators were doing good work, though great numbers of children under 12 are badly marked with small-pox. Cholera visited Karúr town at the end of 1881, but very mildly. In 1883 there was a sharp outbreak both in Karúr town and in the villages, which caused about 925 deaths.

KOLLEGÁL.

This taluk is wholly distinct from the rest of the district in locality, elevation, climate, soil, language, and people. It lies on the extreme north of the district and is bounded on the north and west by Mysore, on the south by Satyamangalam and Bhaváni, and on the east by Bhaváni and the Salem district. It forms part of the Mysore plateau, and is separated from the Coimbatore district on the south and east by chains of mountains pierced here and there by passes, of which the chief are the Gazalhutti and Hassanúr gháts on the south, the Nadukával-Kávéripuram on the east, and the Bargúr ghát road on the south-east. The general elevation of the plateau is from 2,500 to 3,000 feet, with peaks and ranges of hills rising from 4,000 to 5,000 feet. Its rivers are the Cauvery, Gundal and Honnal; the first is the north and north-east boundary of the taluk; the second rises in the Bīligirirangam hills in Mysore and joins the Cauvery about 3 miles north of Kollegál; the third rises in the Hassanúr and Talavádi hills, and enters the Cauvery about 2 miles from Kollegál. There are several jungle streams besides the above rivers.

Its area is estimated at above 1,000 square miles, of which only 382 have come under survey. The climate is subtropical owing to its elevation, and its rainfall is considerable, averaging 36 inches, as it shares largely in the south-west monsoon. It has been alleged by some of the inhabitants that the rainfall has decreased of late years, which seem to form part of a dry cycle; the monsoon of 1883 was as abundant as could be desired; the cleared area is so small as compared with that of hill and forest that it can have had no effect in diminishing the rainfall, and the clearance of late years has been insignificant, as shown by the cultivation returns. Fever is of course prevalent, and the water generally bad; but for this drawback the taluk in the matter of climate, soil, and unoccupied area would form a magnificent field for European enterprise, especially now that the Mysore railway has a station within 30 miles of Kollegál. The directions in which capital would repay investment will be gathered from this notice, such as the repair of

irrigation works, the cultivation of superior crops, the breeding of cattle, and so forth.

The soils are generally good; the low assessment is due to the general character and position of the taluk rather than to the productive powers of the land. Of 128,106 assessed acres in the surveyed portion of the taluk, no less than 98,589 or 77 per cent. are in the black and red loam series, the balance of only 23 per cent. being red sand. As the former are the most productive soils in the country, and as cattle and forests abound, the capability of these soils is readily inferrible.

The forests of Kollegal are its chief features; on the south and east the forests are vast and almost untrodden except by wild tribes. They abound in the different ferns, while the flora are rich and varied. The sandalwood forests are celebrated and are now under process of reservation. The total area of hills and forests cannot be less than 600 square miles and is probably much more.

The taluk has some good cattle, and its business is rather in stock-breeding than in arable farming. At the Matheswara hill festivals of Dipavali, Sivaratri and Yugathi there are large cattle fairs at which many thousands of cattle change hands. Ponachi, Sangudi and Koudhalli are mentioned as notable places for cattle of the pure Alamjadi breed.

For a notice of the wild tribes, see "Hills" and district notice. The taluk language is Canarese; Tamil and Telugu are occasionally spoken. Tamil Vellalars are said to be found in Lokanahalli only.

Besides 91 villages which came under survey and settlement, there are 58 in hilly and jungle tracts, and 3 enfranchised shrotriem villages, which were excluded from survey.

The total assessed area of the taluk in all villages, surveyed and unsurveyed, is 571,334 acres, of which 244,337 are in the surveyed villages. For details, see Appendix. Just half of the surveyed assessed area is still unoccupied, while the peramboka, chiefly hill and forest, even in these surveyed villages, is nearly equal to the whole assessed area, so that there is still plenty of land either for pasturage or cultivation.

Villages are distributed as follow:—

Size of villages.	No.	Size of villages.	No.	Hamlets.	No.	Houses.	No.	Puttabs.	No.
ACRES.		sq.							
Under 500	13	Under 500	58	Under 5	129	Under 100	108	Under 50	67
Do. 1,000	30	Do. 1,000	24	Do. 10	13	Do. 250	28	Do. 100	27
Do. 2,000	22	Do. 2,000	18	Do. 20	5	Do. 500	11	Do. 200	32
Do. 3,000	23	Do. 3,000	7	Do. 30	1	Do. 1,000	3	Do. 300	12
Do. 4,000	6	Do. 4,000	..	Above 30	1	Above 1,000	3	Do. 400	4
Do. 5,000	7	Do. 5,000	..					Do. 500	3
Above 5,000	28	Above 5,000	1					Above 500	3
Total ..	149	Total ..	149	Total ..	149	Total ..	149	Total ..	149

Number of villages.					
Dry only.	Wet only.		Wet and dry.		
	Channel.	Tank.	Channel.	Tank.	Jungle stream.
109	"	"	30	13	7

Administration.—The taluk is of the fifth grade, with head-quarters at Kollegál; see Appendix.

For judicial establishment, see Appendix.

The District Munsiff of Kollegál has of late been removed, and a Tahsildar-Munsiff appointed.

There is a Sub-Registrar's office at Kollegál.

Local Funds.—The taluk is in the division of a Supervisor, with an Overseer for executive work, especially on the ghát roads. The taluk is ill-provided with roads, only the main lines being tolerable. Two main lines run up from the low country, one by way of Tálavádi through the Mysore territory, and the other by way of Andiyúr and Bargúr in Bhaváni taluk.

Leased markets are as follow:—

Place.	Day.	Rent for 1882-83.	Total amount of leases to 31st March 1892.	Total expenditure to 31st March 1892.	Assets on hand 31st March 1892.	Wells.	Trees.	Sheds.	Servants.
Kollegál	Monday	Rs. 220	Rs. 1,160	Rs. 1,292	Rs. 123	..	54	2	1
Kanthú	Saturday	450	2,180	600	1,490	..	32	2	2
Hande	Monday	195	1,597	298	1,390	..	..	1	1
	Total ..	865	4,937	2,280	2,072	..	86	5	3

Besides these there is an unleased market at Kavudhalli.

Ferries are as follow:—

River.		Rent of ten years.			Usual season.
		Maximum.	Minimum.	Average.	
Cauvery	Annapuram	Rs. 35	Rs. 6	Rs. 21	July and August.
	Kollegál	36	10	23	
	Thottamaridaravayapuram	100	10	40	
	Alambádi	101	35	28	
	Bargúr	40	6	21	

Irrigation.—This is inferior; the following extract from the Settlement Report gives some information:—

" *Sources of irrigation.*—The sources of irrigation in this taluk are Gundal, Honnal and Cauvery rivers.

" The river Gundal is the principal one, and it rises in the Biligiriranga hills in Mysore territory, situated about 20 miles south of the ceshah, and empties itself into the Cauvery at Saragur, 3 miles north of the ceshah.

" There are five villages under its direct flow. There are four masonry dams across the river in four different places, and they feed the four channels as under :—

- | | |
|-----------------------|-----------------|
| (1) Palaiyam channel. | (3) Papankal. |
| (2) Doddanalla. | (4) Danureikal. |

" Though this river is considered as a living one, yet its magnitude is so small and awkward that it can hardly carry as much quantity of water as is required to irrigate the whole extent of land under it.

" The river Honnal is formed of two jungle streams, which take their rise in Hassanur ghât, and Talavâli hills respectively in Satyammangalam taluk, situated at about 45 miles south of the ceshah. It flows through the villages of Mysore province to a great distance and then empties itself into the Cauvery river near Hampapuram, situated on its southern bank 2 miles north of ceshah. Two villages named Therampalli and Utampalli are watered by a tank situated in the former, supplemented by the surplus water of a tank in Aguram (in Mysore province) supplied by the river Honnal.

" The river Cauvery irrigates about 31 acres of wet land in the village of Danakural, through which a channel from an anicut across the river, situated within the limits of the said village, runs to two jaghire villages in the taluk."

The following statement details the number of villages under the several sources of irrigation, with the survey area and settlement assessment :—

Name of sources	Number of villages	Occupied.		Unoccupied.		Inam.		Total.	
		Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
1. Gundal river	5	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
2. Palaiyam channel	3	657	2,453	25	84	43	179	745	2,716
3. Doddanalla	9	2,742	10,848	18	71	197	949	2,957	11,868
4. Papankal	3	1,045	3,752	43	152	94	473	1,182	4,357
5. Danakural	2	300	902	35	113	3	8	338	1,030
6. Honnal river	4	156	624	..	..	16	68	181	692
7. Cauvery river	1	31	143	..	..	..	..	31	145
8. Rain-fed tanks	5	608	2,534	4	21	42	209	654	2,764
Total	30	6,787	22,175	162	583	493	1,922	8,352	24,683

There is said to be great waste of water under some of these tanks. The average assessment and jamabandi for a series of quinquennia are entered below :—

Qoroqumia.	Tank.			Charnol.			Jungle stream.		
	Holding.	Jamabandi.	Difference.	Holding.	Jamabandi.	Difference.	Holding.	Jamabandi.	Difference.
1211-75 ..	17,477	16,265	1,212	5,478	5,927	451	839	202	637
1216-80 ..	17,506	16,671	835	5,745	5,219	526	787	244	543
1281-85 ..	17,314	15,476	1,838	5,616	5,136	480	642	202	440
1236-90 ..	17,311	16,699	612	5,651	5,307	344	521	174	347
1291 ..	16,834	15,959	875	5,373	5,362	11	288	61	227
1292 ..	16,813	16,501	312	5,377	5,348	29	259	61	198

Buchanan notes that there are many ruined works which used to be in good repair; for mention of some works, see "Irrigation" in the district notice.

Irrigation wells are hardly known; it is said that only in one village (Hanūr) well irrigation is carried on by cattle-lifts "after the fashion of the Kongu proper, by some Telugu-speaking Kammavars."

Agriculture.—The practice differs somewhat from that below ghâts, and partakes rather of the Mysore practice. As just noted, garden cultivation is little practised, probably owing to the good rainfall. Wheat is grown on dry land from July to October, and sugar-cane is also a dry land as well as a wet crop. Ragi is also grown on dry land. Mulberry trees are grown to a considerable extent for feeding silk worms; in 1882 there were 363 acres under this crop.

The chief crops and their seasons are noted below :—

Crops.	Dry.	
	Sowing time.	Reaping time.
Ragi	July and August ..	October and November.
Cholam	April	August.
Kambu	August and September ..	February and March.
Dholl	July	Do.
Horse-grass	October and November ..	Do.
Bengal-grass	November	February.
Other pulses	Do.	Do.
Gingelly-oil seed	June	September and October.
Castor-oil seed	August and September ..	February and March.
Crops.	Wet.	
	Sowing time.	Reaping time.
Paddy	June	January.
Sugar-cane	April and May	March.
Mulberry	July and August	June.
Betel-vines	November and December ..	September and October.

Registered land transactions are as follow :—

Years.	Sales		Mortgages		Leases	
	Above Rs. 100.	Below Rs. 100.	Above Rs. 100.	Below Rs. 100.	Perpetual	Ordinary.
1880-81	108	166	170	124	..	8
1881-82	200	243	258	199	..	25
1882-83	202	253	207	100	..	31

Occupied Government and inam lands are tabulated in the next tables :—

Year.	Channel wet.			Tank wet.		
	Area.	Assess- ment.	Average assessment.	Area.	Assess- ment.	Average assessment.
	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1871	1,643	5,178	3 12 1	3,880	17,809	4 7 3
1881	1,709	5,298	3 10 11	3,903	17,264	4 2 6
1891	1,914	6,031	3 7 5	3,030	15,894	4 0 4
1892	1,915	6,555	3 7 5	3,929	16,813	4 0 4

Year.	Dry, including garden.			Total		
	Area.	Assess- ment.	Average assessment.	Area.	Assess- ment.	Average assessment.
	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1871	71,332	72,100	1 0 2	76,001	65,587	1 3 10
1881	65,298	61,938	0 15 2	70,010	65,498	1 3 3
1891	66,060	63,072	0 14 5	73,510	62,537	1 2 3
1892	66,001	69,635	0 14 5	71,894	62,083	1 2 5

Nature of inam.	Dry			Wet			Total		
	Area.	Quit- rent.	Normal assessment.	Area.	Quit- rent.	Normal assessment.	Area.	Quit- rent.	Normal assessment.
	ACR.	RS.	RS.	ACR.	RS.	RS.	ACR.	RS.	RS.
Davalayam, Brahma- dayam, Service and sundry inams.*	2,735	242	4,400	400	291	2,349	4,135	533	6,749
Jachin, Shrotriam, &c.	12,779	..	10,400	879	..	4,454	13,449	† 2,236	14,684
Total ..	16,504	242	14,800	1,079	291	6,803	17,584	2,769	21,703

* Particulars for each kind of inam are not available.

† Only the total quit-rent is known.

Dévasthanams.		Village.	Inam.
Kollegál	..	Mathuranhalli ..	000
		Kollegál ..	793
Satogál	..	Pálayam ..	1,893
		Total ..	1,129
			2,824

There are few industries other than those of agriculture, cattle breeding, and weaving. There are about 2,000 looms in the taluk. Silk rearing and weaving are carried on to some extent, and the gold-laced cloths and kerchiefs of Kollegál are good and well known; Athalli, Hinduvádi, Singánallár, Kámakarai, and Kongrahalli are chief breeding places, and Kollegál is the chief seat of manufacture; silk cloths vary from Rs. 5 to Rs. 300, or even higher, according to the quantity and quality of the silver and gold embroidery, which, in the highest priced cloths, is woven in intricate and elegant designs into the texture of the cloth while still in the loom. Only 88 looms are reported to be at work.

Principal places are Kollegál, the taluk head-quarters, situated on the Cauvery on the extreme north of the taluk, and having a population of 8,462; Hanúr, a large village with irrigation wells; Mudigundam, 2 miles south-west of Kollegál and a mart for the sale of spices from the low country; Mathéswaremalai, much resorted to as their sacred shrine by the hill people of Bargúr and other places, and a centre for large cattle fairs; Handarpala, 3 miles south-west of Kollegál, close to which is Sidhéswaremalai, in which the five Pandavas are said to have concealed themselves: the hill is full of caves, and the chief one bears the name of Bhima. Near Kollegál at Sivasamudram are the magnificent Cauvery falls.

PALLADAM.

This large taluk lies in the centre of the district, and is bounded on the north by Satyamangalam, on the east by Erode and Dhárápúram, on the south by Udumalpet, Pollachi and Dhárápúram, and on the west by Coimbatore. It is a somewhat flat, dreary plain, in area 739 square miles, and having neither hills nor forests; the river Noyil bisects it, and, with the exception of the jungle stream called the Nallár, is its only river. The climate is hot and very rainless, since it shares fully neither in the south-west nor north-east monsoon; a rainfall of 19·25 inches is the average of 15 years. The wind is furious, but fairly cool in the former monsoon, as the taluk lies opposite to the Palghát gap.

The soils are black cotton, chiefly in the south and south-west, with conglomerated calcareous tufa in parts bordering on Dhārāpūram; about Palladam and northwards to Avunāshi and Cheyār the soil is chiefly reddish gravel; near the railway from Mangalam to Sālūr there are rich tracts of red loam and red sand, with occasionally black and reddish-black tracts. About three-fifths of the dry area are of the classes assessed at one rupee and upwards.

Trees are not abundant, and even hedges are not so numerous as in the eastern taluks; the kilavei also often gives place to various kinds of euphorbia.

Animals are in no way remarkable, whether wild or domestic. A few antelope and an occasional wolf are still found on the open plains between Palladam and Sālūr; and panthers occasionally resort from the Satyamangalam taluk to the more northern villages. Small game is tolerably abundant, and duck and teal are found in profusion on the tanks. Many of the sheep are of a peculiar kind known as kurumba; they are characterized by having white bodies and black heads, and a true wool instead of hair; these are always tended by Kurumba shepherds, whose females weave the wool into coarse blankets. The yield of wool is very small.

The Kurumbar above noted are the only special tribe.

Villages are 195 in number and are distinguished as follows:—

Size of villages.	No.	Size of villages.	No.	Houses.	No.	Hamlets.	No.	Pattaha.	No.
ACRES.		sq.							
Under 500	20	Under 500	21	Under 100	41	Under 5	134	Under 50	27
Do. 1,000	22	Do. 1,000	40	Do. 200	71	Do. 10	44	Do. 100	42
Do. 2,000	55	Do. 2,000	55	Do. 500	88	Do. 25	16	Do. 200	76
Do. 3,000	38	Do. 3,000	23	Do. 1,000	24	Do. 50	1	Do. 300	27
Do. 4,000	21	Do. 4,000	21	Above 1,000	1	Above 30		Do. 400	6
Do. 5,000	18	Do. 5,000	9					Do. 500	8
Above 5,000	20	Above 5,000	11					Above 500	1
Total ..	195	Total ..	195	Total ..	195	Total ..	193	Total ..	193

Number of villages.						
Dry only.	Wet only.		Wet and dry.			
	Channel.	Tank.	Channel.	Tank.	Channel and tank.	Jungle stream.
137	6	1	7	44

Villages.				No.	Villages.				No.
Under 10 wells	..	..	..	19	Under 50 acres	..	..	..	24
Do. 20 do.	..	..	..	29	Do. 100 do.	..	..	..	23
Do. 30 do.	..	..	..	31	Do. 200 do.	..	..	..	55
Do. 50 do.	..	..	..	44	Do. 300 do.	..	..	..	31
Do. 75 do.	..	..	..	31	Do. 500 do.	..	..	..	32
Do. 100 do.	..	..	..	21	Above 500 do.	..	..	..	27
Above 100 do.	..	..	..	20					
Total				193	Total				195

The following tables relate to occupied Government and inam lands respectively :—

Fasli.	Channel wet.			Tank wet.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.
1281	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1291	2,483	20,748	8 0 8	1,313	8,822	6 11 7
1291	1,890	15,272	8 0 8	961	6,928	7 3 4
1292	1,889	15,281	8 1 2	958	6,946	7 2 10

Fasli.	Jungle stream.			Dry, including garden.			Total.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.
1281	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1291	1,491	8,634	5 12 5	364,246	3,47,790	9 15 3	369,632	3,85,913	10 6 8
1291	1,224	7,081	5 12 7	335,405	3,44,291	10 0 4	339,489	3,73,672	11 1 7
1292	1,130	6,489	5 11 9	332,790	3,41,368	10 0 11	335,777	3,69,965	11 1 7

Nature of inam.	Wet.			Dry.			Total.		
	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.
Personal	ACRES.	RS.	RS.	ACRES.	RS.	RS.	ACRES.	RS.	RS.
Devadāyam	120	376	1,010	9,032	3,943	9,200	9,152	2,919	10,210
Davadāyam	101	115	610	13,773	563	11,628	13,874	678	12,438
Dharmadāyam	28	29	212	284	119	1,224	1,010	168	1,436
Village service	212	..	1,528	20,170	8	19,074	20,382	8	20,600
Total	459	430	3,558	45,959	3,333	41,126	44,418	3,763	44,684

The registered dealings in land are as follow :—

Years.	Sales		Mortgages		Leases.	
	Above Rs. 100.	Below Rs. 100.	Above Rs. 100.	Below Rs. 100.	Perpetual.	Ordinary.
1880-81	634	324	885	944	4	80
1881-82	735	410	700	372	15	128
1882-83	678	527	750	597	6	163

Administration.—The taluk is of the second class, and, being very large, has a Deputy Tahsildar at Avanāshi.

Revenue circles, called hoblies, are 19 in number.

Judicial staff will be found in the Appendix. There are Sub-Registrars at Palladam, Avanāshi and Sālūr.

Local Funds.—The taluk is, for Local Fund public works, in the division of the Local Fund Engineer with an Overseer in immediate charge.

Leased markets are as follow :—

Place.	Day.	Rent for 1882-83.	Total amount of houses to 31st March 1882.	Total expenditure to 31st March 1882.	Assets on hand 31st March 1882.	Sheds.	Trees.	Wells.	Sweepers.	Water-supply.
Palladam ..	Monday ..	Rs. 415	Rs. 3,770	Rs. 3,226	Rs. 596	4	100	1	2	..
Avanāshi ..	Thursday ..	455	4,303	3,833	1,500	5	111	1	2	..
Cheyūr ..	Monday ..	390	1,765	2,077	— 323	3	40	1	1	..
Tirupūr ..	Tuesday ..	330	2,342	4,614	— 1,272	3	120	1	1	..
Karavāli.	Friday ..	310	2,417	2,307	340	3	70	1	1	..
Sālūr ..	Do. ..	600	2,610	2,702	1,008	3	115	1	2	..
Total ..		2,410	20,325	17,659	2,664	21	365	6	10	..

Unleased markets are as follow :—

Place.	Day.	Place.	Day.
Krishnapuram ..	Sunday.	Athupāliyam ..	Sunday.
Kannurkēmpāliyam ..	Saturday.	Mangalam ..	Saturday.
Munthirpāliyam ..	Wednesday.	Annapuram ..	Friday.
Pongulūr ..	Thursday.	Peranthodu ..	Saturday.
Pattināchal ..	Sunday.	Koduvē ..	Tuesday.
Malaipāliyam ..	Thursday.	Naduvāchel ..	Sunday.
Sānūr ..	Wednesday.	Kuttaham ..	Saturday.
Kittampāliyam ..	Tuesday.	Annūr ..	Thursday.
Perumanallūr ..	Saturday.	Kudangipāliyam ..	Sunday.

Vaccinators are 3 in number.

Irrigation is inferior. The following extract from the Settlement Report gives details :—

Irrigation.—1·06 per cent. only of the occupied area falls under the head of "irrigated" in this taluk. The river Nōyil, a tributary of the Canyery, takes its source in the western range of hills above Bolampatti, and traverses the taluk from west to east. There are thirteen dams thrown up across it to direct the water for irrigation, but the supply is so scanty (except during freshes, which are of rare occurrence) that it does not suffice to fill the tanks dependent on it: 2,294 acres are irrigated by ancient channels leading directly from the river. A small stream called Nallār, rising in the uplands in the neighbourhood of Annūr, Coimbatore taluk, and joining the Nōyil, is also utilised to some extent, but is a precarious source. The petty tanks are dependent on rainfall and surface drainage."

Name of sources.	Number of villages.	Wet ayament.									
		Occupied.		Average per acre.	Unoccupied.		Inam.		Total.		
		Extent.	Assessment.		Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	
		ACRES.	RS.	RS. A. P.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.	
Channels from the Noyil	13	2,008	13,321	6 10 2	60	349	226	1,529	2,294	15,290	
Channels from Nallaz stream	3	144	679	4 11 5	17	96	27	145	168	910	
Tanks fed by the Noyil and Nallaz. ..	7	834	5,498	6 7 0	31	184	152	1,023	1,037	6,716	
Rain-fed tanks ..	25	953	4,536	4 12 2	39	186	67	278	1,040	4,908	
Total ..	48	3,939	14,033	6 1 2	147	615	462	2,975	4,568	27,538	

The chief irrigation is from the Noyil; during the settlement 1,211 acres were transferred to dry owing to the failure of the spring channels which used to be dug in the Noyil bed. There can be little doubt but that while the Noyil is as precarious as ever, and its floods as violent, its under-current is much less, and no longer repays the trouble in channels dug below Súlur. The forest operations in the Bolampatti valley will possibly renew the underground flow.

The chief crops and their seasons are noted below:—

Crops.	Dry.	
	Sowing time.	Reaping time.
Cholam	October	January.
Cotton (on black soil)	November	March-April.
Hoise-grain	September	December.
Bullock-grain	October	January.
Kambu and pulses	August	December.
Crops.	Garden.	
	Sowing time.	Reaping time.
Cholam	November, March	February, June.
Ragi	July	October.
Chillies	August	December and January.
Onions	May	July.
Tobacco	Sown September, transplanted in November.	February, March.
Crops.	Wet.	
	Sowing or transplanting.	Reaping time.
Paddy	August	December.
Sugar-cane	May	Next May.
Turmeric	May	December.

There is nothing of special importance; the tobacco is fairly good, and a great deal of cotton in the south and horse-grain in the north are grown.

Wells are shown in the next table:—

—	Good wells.			Lifts	Lands under good wells.		Actual area irrigated.	Wells in need of repair.	Area under wells in need of repair.
	In use.	Not in use.	Total.		Area.	Assessment.			
Ayam	8,613	1,103	9,708	15,618	ACRES. 69,789	RS. 1,01,073	ACRES. 47,889	3,312	ACRES. 17,635
Inam	815	122	944	1,358	6,973	9,088	4,626	423	2,879

The taluk suffered severely from the famine of 1877, since which time it has twice experienced bad north-east monsoons and very short crops, viz., in 1879-80 and 1881-82.

Industries other than those of blanket weaving and cotton pressing are unimportant; good spectacles of pebble are made and sold at about one rupee per pair by two or three families of lapidaries at Mutiampalaiyam, near Tirupūr; these also work the crystals into lingams and other vighrahams.

Products are wholly rural produce.

The principal places are Palladam, itself only a small village, but the taluk head-quarters and possessing two cotton presses; Tirupūr, a busy railway station, whence a great deal of cotton is despatched, and now possessing a powerful hydraulic steam-press; it has also a good market and a bridge over the Nôyil; Āvanāshi, celebrated for its ancient temple, which is one of seven sacred places of Kongu, and for its splendid cattle fair of April and May, when large numbers of the finest cattle are brought by the great breeders for sale; it is also the head-quarters of a Deputy Tahsildar; Somanūr, a railway station, close to which is Karumathampatti, an important and ancient station of the Catholic Mission, and at one time its Coimbatore head-quarters; Sūlūr, with good tanks fed by the Nôyil; Cheyūr in the north, once the head-quarters of a taluk; the court of a District Munsiff was located here; it was at one time, partly through the zeal of the then District Munsiff, an educational centre, at which in 1859 a normal school was unsuccessfully started.

POLLACHI.

This taluk is one of the most interesting in the district by reason of its fertility, climate, and scenery. It lies on the extreme south-west of

the district under the shadow of the Ánaimalais, which are the southern barrier between it and Travancore. On the east lie Udamalpet and Palladam, on the west the spurs of the Ánaimalais, the Cochin territory and the Malabar district, on the north the Coimbatore taluk. Its area including unsurveyed hills is about 700 square miles; it contains 131 Government villages with a surveyed extent of 383 square miles, and seven pálaiyapats with 37 villages embracing an area of 77 square miles. The whole surface is diversified by undulations, which, though too gentle to be called hill and dale, yet pleasantly break the monotony of a plain. Approaching it from Coimbatore the road south of Kanathukadavu passes through a country of evidently superior culture, and there is an aspect of prosperity* in the look of the soil and crops which is not usually seen, though villages and people are no different in look from those of the rest of the country. The abundance of trees and the nature of the avenues, as well as the frequent streams along the fertile bottoms, evidence a moister climate and better rainfall, and, should it be in the time of the south-west monsoon, the visitor will remark the pleasant temperature, the drifting mists and cloudy sky which would remind him of more temperate climes, but for the winds, which blow with a violence and persistency that are almost incredible; it is with difficulty that on the exposed hills near Kanathukadavu the horseman or the light cart can make way against the violent wind blowing from the west across the road. As the traveller approaches Polláchi, the Ánaimalais, which have throughout been conspicuous towards the south, loom vaster and vaster, until at Polláchi itself they are seen to be magnificent and picturesque in the extreme, with towering peaks rising from 6,000 to 8,000 feet, gigantic cliffs, noble forests, and here and there the gleam of a waterfall. Turning east along the great southern road which leads from Pálghát to Udamalpet and the East Coast, the same noble hills are kept in near view, while the road to the west brings the traveller immediately under the lower spurs until he reaches the Malabar district at Minkarai. The hills themselves are in several ranges, such as the Kúchmalai on the west, the Tánakadavu on the south-west, and the Panáchi on the south. From these flow various streams, the chief of which is the Áliyár, which, with its tributary the Púlár which rises in Udamalpet, is the chief source of irrigation. Being under the influence of the south-west monsoon, the rainfall is rather higher than in other taluks except Kollegál, and enables a second crop, chiefly of horsegram, to be largely cultivated in the west. The cool breezes from the sea are healthful and invigorating, and the climate generally is healthy; the villages near the hills alone are very feverish, and many of their inhabitants have the cachectic appearance of habitual sufferers by fever. Small-pox, said to spread

* The name is said to be a corruption of "Poral-áchi," i.e., possessing wealth, or prosperity, or superiority.

Year.	Dry, including garden.			Total.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.
	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1871 ..	169,531	1,73,742	1 0 5	176,217	2,01,374	1 2 5
1881 ..	199,479	1,72,889	0 14 6	195,687	1,97,726	1 0 2
1891 ..	201,334	2,04,083	1 0 3	207,123	2,31,622	1 1 2
1892 ..	201,310	2,04,063	2 0 3	207,099	2,31,601	1 1 2

Inam lands are tabulated as follows :—

Nature of inam.	Dry.			Wet.			Total.		
	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.
	ACRES.	RS.	RS.	ACRES.	RS.	RS.	ACRES.	RS.	RS.
Dévalāyam ..	5,004	92	4,756	56	6	339	5,120	100	4,996
Personal inam ..	1,219	579	1,372	68	121	388	1,988	604	2,360
Village service ..	7,441	1,244	7,789	201	124	906	7,641	1,368	8,784
Total ..	14,424	1,911	14,617	325	251	1,633	14,749	2,162	16,139

The registered transactions in land are shown in the following table :—

Years.	Sales.		Mortgages.		Leases.	
	Above Rs. 100.	Below Rs. 100.	Above Rs. 100.	Below Rs. 100.	Perpetual.	Ordinary.
1880-81 ..	648	263	793	283	3	119
1881-82 ..	881	309	669	281	—	116
1882-83 ..	391	325	625	259	2	137

Administration.—Pollāchi is a fourth-class taluk with its headquarters at the town of Pollāchi, where the Head Assistant Collector lives. The Deputy Tahsildar who used to be stationed at Annimalai was removed in 1875. It is divided into 10 hoblies or circles of villages.

Judicial.—The judicial staff will be found in the Appendix. A Sub-Registrar is stationed at Pollāchi. A description of public works and forests is given in the district notices.

Local Funds.—The taluk is, for public works, in the division of the Local Fund Engineer. The Polláchi hospital was founded in 1858 and is of a class superior to the ordinary dispensary. It was till 1883 in charge of a Native Assistant Surgeon, and has done a great amount of good, patients coming from considerable distances in the Travancore, Cochin, and Malabar territories. The building was erected by private subscription, and the hospital has an endowment of Rs. 24,000; it is now under the Local Fund Board, who hold the endowment in trust. The Assistant Surgeon has recently been removed to head-quarters, and a Civil Apothecary is now in charge. A midwife is attached for service in the lying-in ward and in the town. Accommodation is available for 36 in-patients. There is but one bungalow, viz., at Polláchi. Those at Ánaimalai and Kótúr belong to the Forest Department. The chattram at Kanathukadavu has a room for Europeans, but the accommodation is very inferior.

Leased markets are as follows:—

Place.	Day.	Rent for 1882-83.	Total amount of leases to 31st March 1882.	Total expenditure to 31st March 1882.	Assets on hand 31st March 1882.	Sheds.	Trees.	Sweepers.
Kanathukadavu ..	Sunday ..	Rs. 376	Rs. 2,222	Rs. 1,323	Rs. 397	1	60	1
Anaimalai ..	Wednesday ..	161	215	675	—100	1	65	2
Total ..		537	2,437	1,998	297	2	125	3

Unleased markets are—

Polláchi	Thursday.
Samattúr	Do.
Vadakkipalaiyam	Friday.
Negamam	Tuesday.

The Polláchi market is the largest in the district; cloths, brass and copper vessels, rice, pepper, and such like are largely brought from Malabar, which in return takes cotton, tobacco, chillies, gram and so forth.

The market is held in the centre of the town upon land partly belonging to Government and partly to the Poligar of Samattúr; the difficulty of collecting fees led to the establishment of tolls on the roads leading to Udamalpet and Malabar; from the proceeds of these tolls the town is sanitated. In 1882 a piece of ground slightly apart from the old site was bought and is now being formed into a commodious market fitted with sheds, wells, etc.

There are no Municipalities, railways, telegraphs, or ferries in the taluk. It was in contemplation to erect Polláchi into a Municipality;

it is now provided with a sanitary establishment from Local Funds, to which are credited the tolls on the Udamalpet and western roads.

Irrigation is of moderate importance: the following extract from the Settlement Report gives particulars:—

" *The sources of irrigation.*—This taluk is irrigated chiefly by jungle rivers or streams, and partly by tanks fed by them.

" The chief of the jungle rivers are the Áliyar, Uppár, and Pálár. The Áliyar takes its rise on the Travancore territories and descends from the hills in Navanuloi in the Kótár village. The Uppár also comes from the hills, descends in Vetakurampadár frontiers, and empties itself into the Áliyar near the Ánaimalai town. The Pálár descends from the hills in the frontiers of the Dhalli village in the Udamalpet taluk, and after passing through the several villages of that taluk enters into the frontiers of the Polláchi taluk, and empties itself into the Áliyar a few miles below the Ánaimalai town. The irrigation from these jungle or minor rivers is inferior to that of the Bhaváni, Noyil, and Amarávati. It is carried on principally by means of channels led off from the anicuts or masonry dams constructed across the rivers, and by means of water stored in tanks from such channels. The Áliyar irrigates by far the largest portion of wet lands in this taluk in the villages of Kótár, Kalayapuram, Udayakulam, Ánaimalai and Marchinayakampálayam. The river has four anicuts across it before it is joined by other streams, viz., first, Pallivángaí anicut; second, Areapuram anicut; third, Karapatti anicut; and fourth, Peria-anai. After it is joined by the Uppár, it has the Vadakkalár anicut close to the town of Ánaimalai. The first, Pallivángaí anicut, irrigates by channels 630 acres in Kótár and Kalayapuram; the second, Areapuram-anai, 1,098 acres in Kótár, Tensingampálayam and Somandurái; the third, Karapatti-anai, 615 acres in Kalayapuram and Udayakulam; and the fourth, Peria-anai, 2,041 acres in Kalayapuram and Ánaimalai. The fifth, which is built across the joint river, the Vadakkalár channel, irrigates 660 acres in Ánaimalai and Marchinayakampálayam. There is an anicut across the Uppár by a channel from which water is stored in a tank in Udayakulam, irrigating a portion of the lands in that village to the extent of 294 acres. In Pálár there is an anicut called Somandurái-anai which supplies by a channel a tank in that village belonging to Samattár Poligar, irrigating chiefly the páliayapat lands, and partly certain wet extent that has reverted to Government. Chinár, a minor stream from the hills which empties itself into the Áliyar in the jungle, irrigates a tract of wet lands close to the hills and jungles in the Kótár village by means of a small anicut of loose stones. Besides these minor rivers there are other smaller jungle streams traversing the taluk, of which two supply two small tanks, one in Devambádi and the other in Kombanéi village; other minor jungle streams help in the cultivation of small patches of wet and garden lands, mostly from private anicuts built under orders. In the Áliyar and Uppár also there are small extents of wet lands cultivated under orders, on payment of dry assessment, by means of private anicuts and channels.

" The irrigation from these minor rivers is pretty good, generally nearer the anicuts, and as it gets farther it gets poorer till it becomes insignificant."

The following table gives statistics of the irrigation works :—

	Aynat.		Holdings.		Waste.	
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Arapuram channel	1,151	4,234	1,131	4,224	..	..
Athar do.	312	930	312	930	..	..
Palliyamangal do.	621	2,824	621	2,824	..	..
Karputti do.	623	3,353	623	3,353	..	..
Peria-nadi do.	1,732	9,392	1,748	9,379	4	20
Vadakkalūr do.	604	3,082	604	3,082	..	..
Pālār do.	12	47	12	47	..	..
Orambopallam do.	112	526	112	526	..	..
Kulapattu tank	254	1,341	254	1,241	..	..
Elavakurū do.	55	277	55	277	..	..
Devambādi do.	196	997	196	997	..	..
Kothavādū do.	121	656	121	656	..	..
Total ..	5,793	27,456	5,789	27,439	4	20

The proportion of wet to dry is about 2½ per cent. ; though the wet lands cannot compare with those of Erode and Satyamangalam, yet they are very well supplied, and bear a good price. The following statement gives in rupees the assessment and jamabandi of the irrigated area for a series of years :—

Quinquennia.	Tank.			Channel.			Jungle stream.		
	Holding.	Jamabandi.	Difference.	Holding.	Jamabandi.	Difference.	Holding.	Jamabandi.	Difference.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
1271-75 ..	3,883	2,506	1,377	20,076	19,289	787	2,613	1,725	888
1276-80 ..	3,205	2,455	750	20,217	19,873	344	1,401	945	456
1281-85 ..	3,236	2,406	830	20,088	20,101	287	1,279	831	448
1286-90 ..	3,007	2,429	578	20,177	19,835	342	1,403	975	428
1291 ..	3,071	3,010	61	23,795	23,795	..	573	573	..
1292 ..	3,071	3,000	71	23,795	23,795	..	573	573	..

Wells are tabulated as follows :—

Class of land.	Good wells.			Lifts.	Lands under good wells.		Actual area irrigated.	Wells in need of repair.	Area under wells in need of repair.
	In use.	Not in use.	Total.		Area.	Assessment.			
					ACRES.	RS.	ACRES.		ACRES.
Dry { Ayan ..	3,701	629	4,233	4,001	20,285	22,729	14,838	1,011	7,559
{ Irani ..	75	11	86	95	1,091	1,025	260	18	169

Agriculture.—Mention has been made above of the superior culture of this taluk due to better soil and better rainfall. Paddy is grown on dry land and yields a good outturn (see chapter on "Agriculture"). Dry lands are often cultivated with cholam in April-May and with gram in August. The chief crops and their seasons are tabulated below :—

Crops	Dry.	
	Sowing time.	Reaping time.
Cholam	April-May	August-September.
Samal	May	August.
Kambu	July	November-December.
Ragi	April-May	August-September.
Horse-grass	August	January.
Thamr	July	November.
Cashew	May	February-March.
Gingelly	April	July.
Chillies	July	December to March.
Tobacco	September	February.
Thoraval	July	Do.
Crops	Garden.	
	Sowing time.	Reaping time.
Cholam	April-May	August-September.
Ragi	Do.	Do.
Chillies	July	December to March.
Tobacco	September	February.
Crops	Wet.	
	Sowing time.	Reaping time.
Paddy	June-September	November-February.
Gingelly seed	April-May	July-August.
Sugar-cane	July-March	June-April.

Tobacco is fairly good; the chillies are among the best in the district and noted for pungency; outturn is very large, being from 3,000 to 5,000 Madras measures per acre. Coffee is grown to a small extent at Púnáchi on the Ánaimalais, and cardamoms are also procured to some extent by the Kádere; it is stated that these are now being cultivated by a business firm.

Forest products are honey, wax, shell-lac, pálei-indigo, wild ginger, turmeric, cardamoms, horns, and ivory; cloth is also woven to some extent.

Principal places are Palláchi, a town of 5,082 inhabitants, with the usual offices, a middle school, and an excellent hospital; it has probably been always a place of trade, since its position on the highway from

the West to the East Coast doubtless made it in old times a meeting place for Eastern and Western produce, and Alexandrian merchants not improbably halted and chaffered here, as at Karúr and other marts of South India; Buchanan saw several Roman coins which, with others, had been dug up at Polláchi, and similar finds have been made at Karúr and elsewhere. Ánaimalai, a thriving place numbering 5,611 people, and lying south-west of Polláchi; Vetteikámapathúr, formerly a hamlet of Ánaimalai, but now distinct, and containing 2,240 houses and 9,110 people, and malodorous in the extreme; these two latter villages are of recent development; Kaunthukadavu, 12 miles north of Polláchi, is a convenient halting-place on the way from Coimbatore, and is a thriving village with a weekly market, two or three small shops, and a chattram.

SATYAMANGALAM.

This taluk is the northernmost of the taluks below gháts. It is bounded on the north by Kollegal, on the north-west by Sámaráj taluk of Mysore, on the south, south-east, and south-west by the taluks of Palladam, Erode, and Coimbatore respectively; Bhaváni is on the east and Gundalpettai taluk of Mysore on the west. On the north, north-east, north-west, and west the taluk is enclosed by mountain ranges, the Nilgiris lying to the west, and the gháts, which lie south of the Mysore plateau, including the Kollegal taluk, to the north-west and north. Through these latter are the Talamalai, Hassanúr, and Gazalhatti passes, well known to our troops in the wars with Mysore as the routes through which Haider and Tipú launched their armies into the plains. The Bhaváni river flows through the taluk past the chief town and thence east till it joins the Canvory at Bhaváni. In its course it is joined by three affluents, the Moyár which unites with it 10 miles west of Gazalhatti, the Tattapallam and Gandipallam. This river is in its highest flood from June to August, being fed from the Nilgiris and Kundahs.

The climate is generally bad owing to its proximity to the hills, which radiate heat and shut off the breezes; the large area of jungle also causes a great deal of fever. It does not appreciably benefit by the Palghat gap. Its rainfall averages 25.90 inches upon a series of 15 years; for details, see Appendix.

The taluk area, as estimated, is nearly 1,000 square miles, and is about 40 miles from north to south and 60 from east to west; of this the greater part (nearly 600 square miles) is hill and forest, the remaining 389 having been surveyed, mapped, and settled in 146 villages. Besides these 146 villages which include 248,700 acres, there are 4 villages settled on the old survey areas totalling 178 acres, and 79 jungly and hilly villages altogether excluded from the operations of the

Survey and Settlement Departments. Nothing is on record regarding the geology and mineralogy of the taluk.

Soils are chiefly of classes called red loam and red sand, black soils not occupying above 8 per cent. of the area. For classification, see "Settlement." Special tribes are the Irulars and Malasars, for whom see "district notice" and "Hills."

The language is principally Tamil, with Canarese, Telugu, and Hindustani.

Ferns are specially well represented in the forests, which abound in game of all sorts up to elephants, which are abundant above ghâts. The Bhavani is noted for fish. Cattle and sheep are in no way remarkable. The flora are those of the ordinary plains, together with almost every species of forest flora to be found in the district; the sandalwood of the forests above ghâts are especially extensive and famous.

Villages are tabulated as follow:—

Size of villages.	No.	Extent of villages.	No.	Houses.	No.	Hamlets.	No.	Putaks.	No.
ACRES.		RS.							
Under 500	29	Under 500	108	Under 100	120	Under 5	194	Under 50	95
Do. 1,000	39	Do. 1,000	47	Do. 250	38	Do. 10	24	Do. 100	59
Do. 2,000	68	Do. 3,000	32	Do. 500	32	Do. 20	8	Do. 200	52
Do. 3,000	42	Do. 3,000	16	Do. 1,000	9	Do. 30	3	Do. 300	22
Do. 4,000	12	Do. 4,000	8	Above 1,000	1	Above 30	..	Do. 400	8
Do. 5,000	..	Do. 5,000	2					Do. 500	..
Above 5,000	26	Above 5,000	15					Above 600	4
Total ..	229	Total ..	229	Total ..	229	Total ..	229	Total ..	229

Number of villages.					
Dry only.	Wet only.		Wet and dry.		
	Channel.	Tank.	Channel.	Tank.	Jungle stream.
181	2	..	32	9	5

Villages.	No.	Villages.	No.
Under 10 wells	133	Under 50 acres gardens	149
Do. 20 do. ..	26	Do. 100 do. ..	27
Do. 30 do. ..	12	Do. 200 do. ..	24
Do. 40 do. ..	21	Do. 300 do. ..	16
Do. 50 do. ..	11	Do. 500 do. ..	14
Do. 100 do. ..	9	Above 600 do. ..	5
Above 100 do. ..	17		
Total ..	229	Total ..	229

In 1880 the area of occupied wet and dry lands was 17,794 and 184,465 acres respectively in the 146 settled villages, and that of unoccupied assessed land was 50 and 15,387 acres. This is, of course, exclusive of the vast unsurveyed areas. The total assessed area of all villages is 613,619 acres, including 14,361 acres of inam.

Ayan (Government) lands are tabulated as follows:—

Facil.	Channel.			Tank.			Jungle stream.		
	Area.	Assess-ment.	Average assess-ment.	Area.	Assess-ment.	Average assess-ment.	Area.	Assess-ment.	Average assess-ment.
	ACS.	RS.	RS. A. P.	ACS.	RS.	RS. A. P.	ACS.	RS.	RS. A. P.
1271 ..	13,111	1,18,577	9 0 0	585	3,744	6 7 0	28	72	2 9 0
1251 ..	17,360	1,40,338	8 0 0	647	3,188	5 6 0	170	552	3 4 0
1291 ..	17,201	1,59,129	8 12 0	150	752	5 0 0	176	566	3 4 0
1292 ..	17,201	1,49,827	8 11 0	150	752	5 0 0	174	562	3 4 0

Facil.	Dry, including garden.			Total.		
	Area.	Assessment.	* Average assessment.	Area.	Assess-ment.	Average assessment.
	ACS.	RS.	RS. A. P.	ACS.	RS.	RS. A. P.
1281 ..	194,555	1,87,460	0 15 5	212,782	3,31,838	1 9 0
1291 ..	156,246	1,70,383	1 1 5	173,772	3,31,630	1 13 7

The next table shows inam lands:—

Nature of inam.	Wet.			Dry.			Total.		
	Area.	Quit-rent.	Nominal assess-ment.	Area.	Quit-rent.	Nominal assess-ment.	Area.	Quit-rent.	Nominal assess-ment.
	ACS.	RS.	RS.	ACS.	RS.	RS.	ACS.	RS.	RS.
Déবাদáyam ..	28	66	177	2,061	515	2,335	2,089	671	2,512
Brahmadáyam ..	38	180	348	1,821	618	2,115	1,869	698	2,401
Kácl ..	36	31	192	325	40	354	361	71	640
Village service.	399	211	3,671	7,668	443	8,814	8,067	654	12,385
Other iname ..	182	373	2,157	1,686	372	1,848	1,808	645	4,005
Total ..	683	851	5,445	13,571	1,786	15,464	14,354	2,639	21,909

The next table shows registered transactions in land, etc. :—

Years.	Sales		Mortgages		Leases.	
	Above Rs. 100.	Below Rs. 100.	Above Rs. 100.	Below Rs. 100.	Perpetual.	Ordinary.
1880-81 ..	283	215	318	181	..	49
1881-82 ..	329	266	367	284	..	68
1882-83 ..	320	306	345	226	..	82

Administration.—Satyamangalam is a third-class taluk, with head-quarters at Satyamangalam on the Bhavāni. It has the usual revenue staff with a Deputy Tahsildar and sub-treasury at Talavādi, a very feverish locality 35 miles north-west of Satyamangalam.

The Deputy Collector in charge of the northern division (Satyamangalam and Kollegal) has his head-quarters at Satyamangalam.

For judicial staff, see Appendix. Civilly the taluk is under the Erode District Munsiff.

Public Works.—The taluk is in the range of the Assistant Engineer, whose head-quarters are at Erode. The anicut at Kodiveri, the two great channels of Tādapalli and Arkankottai fed by the anicut, with the smaller works at Kanyampālaiyam, are the only works under Public Works Department charge. A Special Assistant Engineer and staff belonging to the B. Project division are engaged in surveying for the great irrigation project, which, by damming up the flood-waters of the Bhavāni at a short distance above Satyamangalam, is to form an enormous lake capable of irrigating a very large area in the centre of the district. Nothing has yet been decided in the matter.

Forests.—These are large and important. For a description of their working, see chapter on "Forests." A great deal of jungle has been exhausted by villagers. There are no fuel reserves, but proposals have been made for starting them in various localities, as at Kāgalūr, Pulavapālaiyam, Nambiyār and P. Pulampatti. Non-forest villages which draw upon the forests for their supply of timber are 130 in number.

Education.—A Government middle school was started here, but failed, and was transferred to Karūr in 1880. The chief school is that of the London Mission, which is now flourishing.

Two stations for registering the traffic between the district and Mysore have been established at Chekkagazanūr and Hassanūr.

Local Funds.—For Local Fund public works the taluk is under a Supervisor whose head-quarters are at Satyamangalam.

There is a Local Fund hospital at Satyamangalam, and three vaccinators for the taluk.

Lensed markets are as follow :—

Place.	Day.	Rent for 1892-93.	Total amount of loans to 31st March 1892.	Total expenditure to 31st March 1892.	Assets on hand 31st March 1892.	Standard sheds.	Wells.	Trees.	Establishment.	
									Sweepers.	Water-supply.
Satyamangalam.	Tuesday ..	623	4,619	4,528	91	1	1	..	1	1
Pullampatti ..	Thursday ..	1,765	11,621	6,987	4,534	4	1	..	1	1
Karumandūr ..	Friday ..	816	4,406	3,511	894	1	1	..	1	1
Mōdukūr ..	Saturday ..	1,326	5,311	4,530	779	1	1	..	1	1
	Total	4,526	25,856	19,562	6,294	7	4	..	4	4

Unlensed markets are as follow :—

Ukkaram ..	Monday.	Peruntalaiyūr ..	Friday.
Srivalūr ..	Tuesday.	Kondayampālaiyam ..	Do.
Maleipālaiyam ..	Do.	Murukkantharai ..	Saturday.
Arkanakottai ..	Wednesday.	Kongarapālaiyam ..	Sunday.
Kalingam ..	Do.	Nambiyūr ..	Do.
Talavādi ..	Thursday.		

There are no Municipalities in the taluk. There are regular post offices with the usual money order offices and saving banks at Satyamangalam, Gopichottipālaiyam and Talavādi.

There is no railway or telegraph in this taluk.

Ferries are tabulated as follow :—

River.	Villages on both sides	Rent of ten years.			Usual season.
		Maxi- mum.	Mini- mum.	Average.	
Bhavai.	Kondayampālaiyam ..	Rs. 56	Rs. 27	Rs. 37	June to December.
	Pettaiharai ..	111	59	90	
	Arkanakottai ..	68	20	35	
	Peria-kodiyari ..	190	93	137	
	Tolapalli-karai ..	68	20	35	
	Teppur ..	60	25	41	
	Savvadapūr ..	79	20	51	
	Peruntalaiyūr ..	151	20	51	
	Satyampālaiyam ..	Do. ..	15	44	

Irrigation.—Quotations from the Settlement Report will be found in the chapter on "Irrigation."

For Fash 1292 the following tables give details for the irrigable areas:—

	Ayacut.		Holdings.		Waste.	
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Tedapalli channel	13,733	1,22,653	13,700	1,23,348	34	205
Arlankottai do.	3,935	32,658	3,918	32,657	17	131
Kaniampalaiyam channel ..	275	979	230	518	45	161
Kanthapallam	391	1,006	167	543	124	463
Thettapallam	69	217	2	5	66	212
Thotta Mayar jungle stream ..	300	695	..	..	300	295
Nalli Mayar do.	40	74	6	14	24	62
Pudumpalli tank	53	235	53	235	..	..
Nallur do.	17	105	17	105	..	..
Pangumpalli do.	7	7	1	7	..	..
Oukkaram do.	4	20	4	20	..	..
Elattur do.	83	479	83	479	..	..
Erahamballi do.	8	20	..	..	8	20
Pekatahalli do.	17	136	..	..	17	136
Muthianur do.	26	60	20	41	6	19
Kodipuram do.	37	72	..	..	37	72
Total ..	18,835	1,50,653	18,200	1,57,177	679	2,476

—	Channels									
	Direct flow.				Baling.				Total.	
	Two crops.		One crop.		Two crops.		One crop.			
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Ayacut	76	818	18,523	1,57,400	..	..	32	385	18,642	1,58,613
Ayan holdings ..	76	818	17,239	1,46,570	..	..	32	385	17,376	1,49,918
Inam .. ..	..	..	656	6,305	..	..	..	..	656	6,305

—	Tanks.						Total.	
	Two crops.		One crop.		Total.		Area.	Assessment.
	Two crops.		One crop.		Total.			
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.		
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Ayacut .. ..	..	..	246	1,140	246	1,140	18,835	1,50,653
Ayan holdings ..	..	..	130	752	130	752	17,626	1,50,732
Inam .. ..	..	..	27	140	27	140	683	6,445

The two chief channels are regulated by head sluices under the control of the Public Works Department; the Tādapalli channel is 48 miles long and the Arkankottai 20; the former ends in the Annadasegaram tank in Peruntalaiyūr and the latter falls into the Bhavāni at Perumugai. The levelling, sectioning, deepening and otherwise repairing of these channels is now occupying attention, and a good deal of money is being spent in blasting rocks, repairing the anicut, etc.

The several karais, establishment, etc., are given below:—

Name of karai.	Length in miles.	Number of sluices.	Extent irrigated.		Establishment.							
			Area.	Assessment.	Monigars at Rupees				Peons at Rupees		Nirgantis at Rs. 2.	Head sluice men at Rs. 3.
					15	7	5	4	2½	2		
Tādapalli	6	57	768	8,085	One Head Monigar.	..	1	..	1	..	2	4
Kolmasalvi	3½	38	756	8,904		..	..	1	1	..	2	..
Bodichinnampalaiyam ..	2	29	427	4,981		..	1	..	1	..	3	..
Cheungalarai	3½	53	860	10,391		..	1	..	1	..	3	..
Pallampatti .. ..	..	6	983	10,477		..	1	..	1	..	..	..
Soyampalaiyam	3	108	769	..		..	1	..	1	..	..	..
Agmāra-karai .. ..	..	11	897	3,671		..	1	..	1	..	..	..
Palaya-Periyār	2	47	504	..		..	1	..	1	..	6	..
Pothu-Cheriyār	4	128	873	..		..	1	..	1	..	2	..
Savandupūr	5	103	929	..		..	..	1	1	..	1	..
Ammapalaiyam .. ..	..	2	400	3,046		1	1	..	..	1	3	..
Mōvaal	5	119	705	4,630		..	..	..	..	1	..	..
Kōgalūr	1	13	113	..		..	2	..	..	1	5	..
Peruntalaiyūr	10	222	2,100	13,534		..	..	1	1	..	2	..
Surplus channel in Peruntalaiyūr	4	..	..	..		..	..	1	1	..	2	..
Kōgalūr branch	10	297	2,106	..		..	..	1	1	..	2	..
Singaiyan branch	6	103	421	..		..	..	1	..	..	4	..
Total	67	1,230	15,733	1,22,553	1	1	9	5	9	2	41	4
Arkankottai	5½	67	787	7,676	One Head Monigar.	..	1	..	1	2	..	4
Vimpuṭhūr	3½	47	928	8,920		..	1	2	4	..	..	..
Punja-Turampalaiyam ..	..	..	347	2,353		..	..	..	..	1	..	..
Vattai-karai	2½	40	418	3,873		..	..	..	..	..	..	..
Nallariyampalaiyam ..	3½	82	73	573		..	1	..	1	2	..	..
Namja-Turampalaiyam ..	..	..	522	3,711		..	..	..	..	..	..	..
Kemlampalaiyam	3½	112	634	4,373		..	1	1	2	..	..	..
Perumugai	14	31	215	1,298		..	..	1	1	2	..	..
Total	30	385	3,930	32,687	..	1	2	2	6	11	..	4

There is a gumastah entertained on Rs. 15 to attend to the correspondence work of these channels in the taluk cutcherry.

For four months in the year from June there is a practice of entertaining temporary hands for the Kōgalūr branch of the Tādapalli channel at an aggregate cost of Rs. 10-8-0 per mensem, viz., one monigar on Rs. 4, one peon on Rs. 2-8-0, and two nirgantis on Rs. 2 each. The net cost of establishment is—

				Rs.	A.	P.
For Tádapalli, including branches	..	..	..	210	8	0
For Arkankottai channel	..	..	..	74	8	0
Gumastah	..	..	..	15	0	0
				300	0	0
Temporary hands	..	..	..	10	8	0
Total per mensem	..	..	..	310	8	0

These charges are met from a fund called Seyyál, an irrigation cess levied at 4 annas per acre.

During the months of scarcity of water, which will occur once or twice a year according to the season, say, from September onwards, a temporary dam is erected over the anicut at Kodiveri by means of turf, and water is thus directed into the channels. The charge is met from a fund called Kombanei (temporary dam), another irrigation cess levied at 4 pies per acre. Funds are obtained by application to the division officer.

In the Tádapalli channel there are in all six branches and surplus water-courses; they are detailed below:—

Nome.	Year in which opened.	Starting mile.	Number of sub-sluzes.	Extent irrigated.	Remarks.
Padiampatti Urdai	13	68	ACHES. 534	3 miles.
Singeiyan ..	1863	10	103	421	
Surplus Agrahákarai.	..	18	..	..
Kágulár ..	1864	23	297	3,166	1 mile utilized.
Annapálaiyan ..	..	33	49	230
Surplus Peruntalaiyúr.	..	37	2	..	

The point where the Tádapalli sends off the Kágulár branch is called Arugankatturálei. It has three arches with wooden shutters. In the Arkankottai channel there is a branch called Vániputtár-vaikál, starting in the sixth mile with a length of four miles. Its irrigated extent, etc., are merged in Vániputtár-karai.

Anandasegaram tank, into which the Tádapalli falls, is one mile in length. It contains three sluices and irrigates 190 acres, which extent is merged in the Perantalaiyúr-karai.

Crops raised under these channels are—(1) kár, (2) ayan or deva-ráyan samba, (3) sadei samba.

The first is a crop of 120 days and is grown from the thirty-third mile of the Tádapalli to the end, and from the fifth to the tenth mile of Kágulár branch, and in the whole of Singeiyan branch, with the exception of some parts of Vániputtár branch of the Arkankottai channel. The second is grown in other parts or karais. The third is a crop requiring more water than either of the other two, and permission

to raise this crop is therefore very sparingly granted. Ryots raising this crop without permission are charged prohibitory assessment. This crop is raised under the Singeiyar branch by permission.

Water allowance.—Full supply in the main channels means 7 feet water at the head sluice. In the main channels water is allowed for kár crops on the 15th April, and for ayan on the 15th August. In the branches water is allowed for kár in June according to the supply in the main.

The above regulations are necessitated chiefly by the wasteful expenditure of water alluded to above; it seems probable, however, that the channels and anicut will bear improvement.

Repairs.—The Public Works Department have charge of repairing, clearing silt, etc., in the main channels; while clearing brushwood and such other minor works are done by kudimaramat. For this purpose the channels are closed usually from January to March, during which period the whole channel establishment is placed under the orders of the Public Works Department. On the completion of annual clearings, the Public Works Department communicate to the Tahsildar the date or probable date of opening; the Tahsildar then issues orders and notices to the village officials, Head Monigars and ryots for the punctual and economical use of water.

The ryots complain (1) of the enormous waste through the sluices in the upper parts, as also of waste at the Nasuvankulam on the Tádapalli channel, and at the Puliampatti branch; they also suggest an anicut for the drainage water now lost at the great curve between the thirty-third and thirty-seventh miles.

The kár cultivation is also said to be often begun late, leading to many disputes between the kár and samba cultivators.

The rain-fed tanks are insignificant.

The following table gives the average annual assessment and jama-bandi of ayan irrigated lands for a series of quinquennia:—

Quinquennia.	Tank.			Channel.			Jungle stream.		
	Hold- ing.	Jama- bandi.	Differ- ence.	Hold- ing.	Jama- bandi.	Differ- ence.	Hold- ing.	Jama- bandi.	Differ- ence.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
1271-75 ..	3,804	1,204	2,600	1,32,367	1,06,575	25,792	870	543	27
1276-80 ..	4,229	1,695	2,534	1,34,564	1,32,947	1,917	509	509	..
1281-85 ..	3,420	1,064	2,356	1,32,098	1,27,889	4,114	520	539	..
1286-90 ..	761	232	519	1,40,509	1,35,897	10,612	506	506	..
1291 ..	761	126	634	1,48,419	1,38,290	11,029	566	563	3
1292 ..	751	143	608	1,49,419	1,44,111	5,308	562	559	3

Lands irrigated by wells are tabulated as follows :—

Class of lands.		Good wells.			Lifts.	Lands under good wells.		Actual area irrigated.	Wells in need of repair.	Area under wells in need of repair.
		In use.	Not in use.	Total.		Area.	Assessment.			
Dry	Ayan ..	4,170	983	5,153	6,379	ACRES.	RS.	ACRES.		ACRES
	Inam ..	225	68	294	375	1,922	2,543	1,102	85	522
Wet	Ayan ..	50	18	68	57	34	199	22	10	20
	Inam ..	229	68	297	380	1,931	2,696	1,111	85	522

The irrigated nanjei area is 8·8 per cent. and the irrigated garden area 9·5 per cent. of the total occupied area.

Agriculture.—The chief crops and their seasons are entered below :—

Crops.				Dry.	
				Sowing time.	Reaping time.
Cholam .. ..	..	..	..	July and August	November and December.
Kumbu .. ..	..	..	..	Do.	Do. do.
Sannai .. ..	..	..	..	Do.	Do. do.
Thennai .. ..	..	..	..	Do.	Do. do.
Ragi .. ..	..	..	..	July	January and February.
Yaragu .. ..	..	..	..	Do.	December.
Castor .. ..	..	..	..	Do.	Do.
Pulses .. ..	..	..	..	Do.	Do.
Mustard .. ..	..	..	..	Do.	January and February.
Crops.				Garden.	
				Sowing time.	Reaping time.
Cholam .. ..	..	..	..	October and November ..	February.
Kumbu .. ..	..	..	..	May	July.
Ragi .. ..	..	..	..	July	October.
Thennai .. ..	..	..	..	August	Do.
Castor .. ..	..	..	..	July	November to January.
Wheat .. ..	..	..	..	November	January.
Crops.				Wet.	
				Sowing time.	Reaping time.
Devargun samba ..	..	..	..	August	January and February.
Sadal samba .. ..	..	..	..	June	October.
Kár paddy .. ..	..	..	..	April and May	September.

The yield of paddy under the two great channels is very heavy ; for details, see Buchanan's report of 1800, Mr. Clogstoun's Settlement Scheme Report, and the chapter on "Agriculture."

Industries other than agricultural and those dependent on, and for the convenience of, the ryots, are practically *nil*. Occupations as taken from the census report are principally agricultural.

Trade is chiefly concerned in the exportation of grain and importation of cloths, salt, and miscellaneous goods. The chief town is Satyamangalam on the Bhaváni with a population of 3,210.

Gopichettipálaiyam is a village of importance, being situated amidst the best wet land of the taluk and full of well-to-do ryots and traders.

Dévastánams are granted the following allowances:—

Dévastánama.	Villages paying.	Allow- ance.
		RS.
Satyamangalam	Tádápalli-Ikari	2,730
Gopichettipálaiyam	Gopichettipálaiyam	1,100
	Veerapándi	159
		199
Pariyúr	Pariyúr	394
Peruntaladyúr	Peruntaladyúr	236
Kúgalúr	Kúgalúr	488
Kurumanthúr	Kurumanthúr	385
Kolappalúr	Kolappalúr	679
Demukenkottai	Paniampalli	467
Nambiyúr	Nambiyúr	374
Olalakóvil	Olalakóvil	309
	Gottichevúr	190
Gottichevúr	Avalampálaiyam	385
Srivalúr	Srivalúr	350
Tálarádi	Ikkalúr	
	Total ..	8,644

UDAMALPET.

This southern taluk, formerly known as Chakragiri, is bounded on the north by Palladam taluk, on the east by Dhárápúram and Palni, on the south by the Travancore territory, the Áncimalais being the great southern barrier, and on the west by Polláchi taluk.

The Amarávati river, which rises in the hills on the south, debouches into the plains at Kallápúram at the mouth of the Anjanád valley, and flows nearly due north on the eastern edge of the taluk. This is the only stream of importance, and, fed by the south-west monsoon, flows with some regularity from June to the end of August, failing to a greater or less extent in September, and again increasing in the north-east monsoon till November, when it gradually falls until March, at the end of which it is practically dry, save for spring channels.

The country is an open, gently undulating plain, flat in the black cotton tract on the west and north, but undulating in the south and east. It is the most open taluk in the district, having few hedges and

very few trees; hence the winds of the south-west monsoon are severely felt. The climate is fairly good; the western portions share in the moisture brought by the south-west monsoon, the winds of which, though strong, are wholesome and cool, while the proximity of the hills gives a fair rainfall and abundant water to the villages on the south. In the north and east of the taluk the climate and rainfall are similar to those of Dhārāpūram. The area of the taluk is about 356 square miles including pālaiyapat villages, but excluding the unsurveyed area of the hills, which has been estimated at 200 square miles. The surveyed area is divided into 94 villages, of which 89 are Government and 5 pālaiyapat villages.

The soils are described by the Settlement Department as comprising 15 per cent. of red loam, 62 per cent. of red sand, 12 per cent. of black clay, and 11 per cent. of black loam. The red soil is chiefly on the north, south, and east of the taluk, the black on the south and west; hardly any of the latter is found east of the road running north and south between Dhalli and Periyapatti. The so-called red sand is in some parts very stony and gravelly, and in the north and east there is a good deal of the hard calcareous tufa (odei-kal) mentioned in the Dhārāpūram notices. No minerals are known to be found in this taluk. For further classification of soils and assessment, see "Settlement."

The forests of the taluk are a notable feature; they provide grazing grounds for the taluk cattle during the months when there is little pasturage on the plains, and to a certain extent are thus an aid and benefit to the ryot; on the other hand, not only does this mode of grazing cost a great deal in wages to the herdsmen and in the immense losses by wild animals and disease, but the ryot loses the whole manure of his cattle during the time that they should have been restoring fertility to his fields. There are but few hedges and trees in the taluk to supply fodder and firewood; the splendid yield of cholam and cotton seed provides, however, a vast amount of dry and rich cattle food of which none is wasted, and the kambu, dholl and cotton stalks yield fuel; firewood is largely supplied from the forests at about 2½ rupees per cart-load delivered at Udamalpet. The open, sandy, and treeless wastes south-east of Udamalpet near the foot of the hills are melancholy instances of reckless tree destruction in long distant periods; these were evidently rich jungles like those of Ānaimalai, but are now treeless and exhausted. A few reserves have been selected in the south of the taluk, but more will depend on the ryot in this taluk, where unoccupied land is almost nil, and the price of lands is so high; there are many black-soil villages with hardly an acre of waste, and in these the ryot must be looked to, and not Government, to supply himself with fodder and fuel. Fruit trees will grow well, the tamarinds and pomegranates being very good, the latter the finest of their species; in the irrigated villages there is room for abundant planting of fruit trees and bamboos.

Wild animals abound in the forests, though the lower slopes along the edges of the plains are almost devoid of game both large and small, the ryots in parties beating up and destroying every living thing, regardless of season.

Special tribes are those of the forests, viz., Pulciyars, Kádars, and Mudugars; these are described *sub voc.* "Ethnology." Tamil is the universal language, with Telugu and Hindustani among distinct classes.

The villages are distributed in the following tables:—

Size of villages.	No.	Berls of villages.	No.	Houses.	No.	Hamlets.	No.	Pattaha.	No.
ACS.		RS.							
Under 500	4	Under 500	5	Under 100	16	Under 5	82	Under 50	10
Do. 1,000	15	Do. 1,000	18	Do. 250	25	Do. 10	7	Do. 100	28
Do. 2,000	24	Do. 2,000	32	Do. 500	40	Do. 20	..	Do. 200	36
Do. 3,000	20	Do. 3,000	11	Do. 1,000	7	Do. 30	..	Do. 300	12
Do. 4,000	12	Do. 4,000	13	Above 1,000	1	Above 30	..	Do. 400	1
Do. 5,000	5	Do. 5,000	5					Do. 500	7
Above 5,000	7	Above 5,000	7					Above 500	1
Total ..	89	Total ..	89	Total ..	89	Total ..	89	Total ..	89

Number of villages.				
Dry only.	Wet only.		Wet and dry.	
	Channel.	Tank.	Channel.	Tank.
87	12	10

Villages.	No.	Villages.	No.	Villages.	No.
Under 10 wells	.. 12	Under 50 acres	.. 18	Under 50 acres assessed	.. 74
Do. 20 do.	.. 13	Do. 100 do.	.. 11	Do. 100 do.	.. 4
Do. 30 do.	.. 8	Do. 200 do.	.. 14	Do. 200 do.	.. 4
Do. 50 do.	.. 20	Do. 300 do.	.. 12	Do. 300 do.	.. 1
Do. 75 do.	.. 17	Do. 500 do.	.. 16	Do. 400 do.	.. ..
Do. 100 do.	.. 8	Above 500 do.	.. 18	Do. 500 do.	.. ..
Above 100 do.	.. 9			Above 500 do.	.. 8
Total ..	89	Total ..	89	Total ..	89

The total surveyed area is 218,938 acres, of which 177,395 are assessed Government lands; of these, 175,040 acres were occupied in 1880; only 25,739 acres are poramboke of all descriptions. It will be seen that practically the whole available area is taken up for cultivation; poramboke and inams being deducted, only 2,355 acres, or 1·3 per cent., are unoccupied; of this much is hardly fit for cultivation, being rocky and stony, and the remainder is in petty patches.

The occupied ayan (Government) lands are tabulated as follow :—

Pavli.	Channel wet.			Tank wet.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.
	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1281	5,002	38,824	7 6 1	2,980	14,505	5 1 0
1291	5,658	39,380	6 11 13	3,072	13,971	4 6 8
1292	5,836	39,385	6 11 13	3,036	13,823	4 6 10
Pavli.	Dry, including garden.			Total.		
	Area.	Assessment.	Average assessment.	Area.	Assessment.	Average assessment.
	ACRES.	RS.	RS. A. P.	ACRES.	RS.	RS. A. P.
1281	155,099	149,000	9 14 6	162,861	1,91,489	1 2 9
1291	163,669	151,197	9 14 9	172,509	2,04,548	1 2 11
1292	163,592	151,413	9 14 9	172,774	2,04,601	1 2 11

Inam lands are as follow :—

Nature of inams.	Dry			Wet.			Total.		
	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.	Area.	Quit-rent.	Nominal assessment.
	ACRES.	RS.	RS.	ACRES.	RS.	RS.	ACRES.	RS.	RS.
Devadāyām ..	6,580	..	8,193	434	..	2,256	10,014	..	10,653
Brahmadāyām ..	1,252	127	1,012	430	457	3,261	1,682	584	4,274
Dharmadāyām ..	196	..	265	2	..	7	198	..	212
Panchāyām ..	59	..	57	..	..	..	59	..	57
Bathazedi ..	32	..	25	39	..	96	32	..	113
Village service ..	7,660	..	7,012	263	..	1,693	7,923	..	8,645
Total ..	18,779	127	16,665	1,149	457	7,316	19,928	584	23,875

There are five pālāyapata, viz. :—

Name.	Area.	Number of villages.	Peishdush.	Heris (approximate).
	ACRES.		RS.	RS.
Mettrāthi	6,679	1	1,998	7,265
Moivādi	6,956	1	641	4,729
Thungari	6,658	1	849	4,944
Jōtanipatti ..	1,956	1	143	1,603
Vēlupatti	1,267	1	147	1,105

These were not included in the recent revenue survey.

The value of lands is generally high in spite of the distance of the taluk from foreign markets, and the proximity of the hills to many of the best lands. This is due to the presence of rich black cotton soils, to the nature of the irrigation, which is good, and to the competition produced by the rarity of unoccupied land. Prices have, however, fallen since the famine; it is probable that this is due to decrease of competition, since prices of produce remain high; its black lands have not been distinguished from red in the registration tables, and as much of the red is very poor, prices do not appear very high; local enquiries however show that black cotton used to fetch Rs. 60 or 70 per acre before the famine, but only Rs. 30 to 50 now.

The next table shows transactions in land since 1876 :—

Years.	Sales		Mortgages		Leases.	
	Above Rs. 100.	Below Rs. 100.	Above Rs. 100.	Below Rs. 100.	Perpetual.	Ordinary.
1880-81 ..	824	329	497	233	..	61
1881-82 ..	600	579	540	315	..	88
1882-83 ..	694	667	456	236	..	69

Administration.—The taluk is of the fourth class, with head-quarters at Udamalpet, where there is a good standard outcherry. For revenue and judicial staff, see Appendix.

Udawalpet is the seat of a District Munsiff's Court which has jurisdiction in this and neighbouring taluks; the population is said to be litigious, probably owing to the competition for land, its value, and the value of its produce, and the presence of numerous merchants of various trades, including that of money.

There is a Special Sub-Registrar at the taluk head-quarters.

Forests.—Mention has been made above (*sub* *ec.* "Flora") of the importance of the forests; they are supervised by the following staff: one ranger on Rs. 50, one forester on Rs. 30, one ranger's clerk on Rs. 12, one pygust on Rs. 10, five guards on Rs. 5 to 8, five thanadars on Rs. 6 each, one office peon on Rs. 6, and two watchmen at 2 annas 3 pice per day.

Large reserves have been selected in the hills and are now (1884) in process of settlement by the special settlement officer. The importance of protecting them against fire, damage by cattle, charcoal-burners, and wood-cutters is inestimable, especially in those forests that form the gathering ground of the Amaravati and Palár rivers.

Education.—There has always been a considerable demand for education in the chief town, where the school-house was built by voluntary subscriptions. The chief school has been so successful that

in 1883 it was raised to a high school. For details, see Appendix and "Education."

Local Funds.—The dispensary at head-quarters has a commodious building of the usual type, and is in charge of a Civil Apothecary; a midwife is attached to the hospital for work in the town. There are two vaccinators.

Licensed markets are as follow:—

Place.	Day.	Rent for 1982-83.	Total amount of leases to 31st March 1882.	Total amount to be paid to 31st March 1882.	Assets on hand to 31st March 1882.	Standard sheets.	Wells.	Trees.	Establish- ment.	
									Sweepers.	Water- supplies.
Udamalpet ..	Monday.	Rs. 410	Rs. 1,178	Rs. 1,148	Rs. 89	1	1	40	1	1
Palavadi ..	Friday ..	170	42	844	— 802	1	..	120	2	1
	Total ..	580	1,220	1,992	— 712	2	1	160	3	2

Unleased markets are—

Karattūr ..	..	..	..	..	..	Saturday.
Madattukulam ..	..	..	..	..	..	Do.
Kaniyūr ..	..	..	..	..	..	Do.
Sangramnallūr ..	..	..	..	..	..	Tuesday.

There is no Municipality in this taluk; suggestions for erecting Udamalpet town into a minor Municipality have several times been made, but have come to nothing. A small sanitary establishment is kept up by means of voluntary contributions.

Post offices are at Udamalpet, Komaralingam, Kaniyūr and Dhalli.

There is neither railway nor telegraph in this taluk; a project exists for connecting Dindigul with Pálghát *via* Palni, Udamalpet and Pol-láchi, and survey has recently been ordered.

The main lines of road are very good; in addition there are the usual cart tracks and lanes.

Avenues are extremely poor; the soil, the high winds, and the absence of other trees leading to much damage by goat herds, are main causes of the deficiency; the main road from Polláchi to head-quarters, and onwards to Dhárápuram *via* Káratoluvu, is in much need of shade for its considerable traffic, as also the roads leading to Palni, along which pass many thousands of cotton carts and pilgrims to Palni, Madura, and Rámesvaram.

The only important ferry is that over the Amaravati and Madattu-kulam on the road leading to Palni; the average rent of this is Rs. 110,

which seems low considering the cotton traffic; the other four are unimportant, averaging below Rs. 15 each.

The following extract from the Settlement Report states the nature of the irrigation:—

"*The sources of irrigation.*—This taluk is irrigated chiefly by the Amarāvati and partly by the jungle streams Kudiriyār and Pālār, and tanks supplied by them, and also a few rain-fed tanks.

"The irrigation from the Amarāvati is made chiefly direct from channels led off from the anicuts formed by the loose piling of stones or masonry works across the river. In a few instances the irrigation is carried on by means of water stored in tanks from the channels. In the case of jungle streams, the irrigation is principally carried on by a supply of water stored by channels from the anicuts in tanks constructed for the purpose. The irrigation from the Amarāvati is pretty good and that from the jungle streams and rain-fed tanks is more indifferent. Of the villages irrigated by the Amarāvati, the first, Kallāpuram, is situated in an unhealthy locality jutting into the hills, almost enclosed by hills and jungles. It is feverish and subject to the rapacity and ravages of wild beasts. The second, Komaralingam, is partly so situated near jungles and hills and partly on plains undulating and at different levels which make irrigation indifferent. The other five villages down below (Cirkar Kennadiputhur, Solamadevi, Kaniyār, Kadattār, and Karatolavu) are comparatively better situated, both as to irrigation, population, and position, and command better advantages of situation, soil, and irrigation."

The river irrigation is decidedly good and continues very nearly the whole year; certainly from June to April; orders have recently been issued that the channels are liable to be closed for repair for two months, viz., April and May. There are two Kallāpuram channels, one belonging to Government, and another belonging to a ryot named Kaniyār Krishna Iyer, who was permitted some years ago to dig a channel at his own expense from the Kallāpuram anicut to supply the Rāmasamudram tank, the area under which was made over to him at a reduced assessment in consideration of the above work. He now irrigates 400 acres, but is at continual feud with the Kallāpuram ryots regarding the water-supply. That from tanks is indifferent, except in years of good rainfall, when the chain of tanks known as the Boothinattam series, which extends from Dhullī to Udamalpet, is fed by anicuts at the junction of the Pālār and Thanār close to Trimurti. These streams drain the north-east slopes of the Anaimalais and give a good supply only in the north-east monsoon, which is notoriously uncertain. West of the anicuts the Pālār supplies a tank in Valayapalaiyam, and thence flows into the Pollachi taluk.

The Mathikettān-odei supplies two small tanks now made over to the ryots.

The Kudiriyār flows from the Madura district and joins the Amarāvati at Komaralingam.

The following table gives information as to the various works; inam holdings are included, as well as waste:—

	Aycent.		Holdings.		Waste.	
	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Kallapuram channel	1,431	6,808	1,414	6,860	8	38
Komarpalingam do.	1,404	8,004	1,794	8,000	10	64
Cirkar Kammalipathir channel ..	593	3,904	490	6,872	3	34
Selawadeyi channel	619	4,573	619	5,573	..	..
Kaduthur do.	1,110	6,061	1,103	6,094	7	67
Kariydr do.	348	3,919	348	3,219	..	..
Kariolatu do.	687	4,306	529	4,742	5	64
Chinnar and Thanar	298	522	99	177	100	345
Oranjari channel	77	155	..	..	77	163
Dhalli do.	31	47	0	10	25	37
Krishnapuram channel	14	43	14	45	..	..
Valayapalayam tank	69	189	54	170	5	19
Alampalayan do.	88	277	81	264	7	23
Kannamankalancur tank	26	73	20	73	..	..
Kozumam tank	419	2,313	412	2,312	..	..
Sangrammallar	267	1,040	267	1,040	..	..
Piparkulam	90	212	90	212	..	..
Parakkulam	1,154	5,418	1,145	5,366	8	35
Serkulam	282	1,077	280	1,073	2	4
Kandolathammankulam	373	1,710	373	1,710	..	..
Chettikulam	349	1,225	249	1,225	..	..
Thallunotrakulam	128	611	127	606	1	5
Karimkulam	210	901	206	973	4	18
Sonakulam	229	1,083	229	1,063	..	..
Alurukulam	198	405	167	402	1	3
Total ..	10,425	61,557	10,038	60,647	367	910

The above area is further distributed as follows :—

—	Channel.										
	Invent Row.					Baling.				Total.	
	Two crop.		One crop.			Two crop.		One crop.		Area.	Assessment.
	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.	Area.	Assess-ment.			
	ACRES.	RS.	ACRES.	RS.	ACR.	RS.	ACR.	RS.	ACRES.	RS.	
Ayru lands ..	5,210	36,558	912	3,402	..	..	16	62	6,178	40,172
Holdings ..	5,200	36,424	911	2,801	..	..	15	80	6,836	39,365
Inam lands ..	423	4,064	146	677	..	..	..	..	569	4,732
Total ..	6,079	49,752	1,069	4,079	..	..	16	82	6,794	44,896

	Tank.						Total.	
	Two crop.		One crop.		Total.		Area.	Assessment.
	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.		
	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.	ACRES.	RS.
Ayan lands ..	2,843	13,023	268	1,052	3,111	14,075	9,275	54,247
Holdings ..	2,847	12,922	256	1,049	3,103	13,971	8,008	53,336
Indian lands ..	154	722	437	1,865	591	2,587	1,180	7,310
Total ..	2,977	13,745	696	2,917	3,673	16,662	10,453	61,567

The only projects known are—(1) a project for a new anicut below Kallāpuram, begun by ryots, but abandoned for want of funds; the scheme is a storage scheme, and was expected to irrigate about 2,000 acres at an outlay of about Rs. 50,000. The settlement officer, who has given some information in paragraphs 35 and 36 of his Settlement Report, visited the spot and is in favour of the completion of the scheme either by Government or private enterprise; (2) a proposal by the ryots to repair at an expense of about Rs. 2,000 a good sized rain-fed tank in Kondampatti village near the road to Palladam; the scheme is quite feasible and was examined during the famine by the Public Works Department. Nothing is known as to the possibility of extending the irrigated area under the present channels. The slopes are so sharp and the ground so uneven that extension is probably impracticable. Kudimarāmat is customary and is similar to the practice in Dhārāpuram. The following table gives the average annual assessment and jamaibandi on occupied wet lands for a series of quinquennia:—

Quinquennia.				Channel.			Tank.		
				Hold- ing.	Jama- bandi.	Differ- ence.	Hold- ing.	Jama- bandi.	Differ- ence.
				RS.	RS.	RS.	RS.	RS.	RS.
1271-75				37,210	34,425	1,791	14,875	11,298	3,573
1276-80				36,612	36,404	408	13,951	12,648	1,303
1281-85				37,778	37,612	166	14,974	12,733	2,240
1286-90				39,325	39,068	170	15,441	10,419	5,022
1291				39,334	39,128	206	13,971	11,893	2,078
1292				39,385	39,163	202	13,971	12,916	1,055

Wells are tabulated as follow :—

Class of lands.	Good wells.			Lifts.	Lands under good wells.		Actual area irrigated by wells.	Wells in need of repair.	Area under wells in need of repair.
	In use.	Not in use.	Total.		Area.	Assessment.			
Dry	Ayan ..	2,800	314	3,114	4,487	53,070	57,137	23,099	828
	Inam ..	200	34	234	327	3,899	3,596	1,632	78
Wet	Ayan ..	382	18	399	540	2,000	2,100	1,946	20
	Inam ..	27	2	29	34	148	700	136	4

The total area irrigable from channels and tanks (10,425 acres) and that actually irrigated by wells, are 5.3 and 13.6 per cent. respectively of the total assessed area (196,174 acres) including inama. The wells appear to be of less depth to the water, and to irrigate a larger area than in other taluks; this is probably due to the extent of black loam, which requires less water than other soils. Near the hills, where the water is very near the surface and the soil rich, many ryots do not care to dig wells; on black cotton soil the outturn is usually good without irrigation, while the soil and rainfall near the hills are generally so good (Dhalli) that excellent crops are raised without the cost of lifting water. In the worse soils wells are hardly possible owing to the high and rocky nature of the land.

Agriculture.—The chief crops and their seasons are tabulated below :—

Crops.	Wet.	
	Sowing time.	Reaping time.
Paddy	August	December to February.
Sugar-cane	July	August next.
Crops.	Dry.	
	Sowing time.	Reaping time.
Cholam	April	July.
Kamba	September	February.
Bajri	August	January.
Thana	September	Do.
Sama	Do.	Do.
Varaga	Do.	Do.
Home-grain	October	February.
Pulse	Do.	Do.
Bengal-grain	November	Do.
Gingelly seed	March	June.
Castor seed	August	March.
Cotton	October	April.

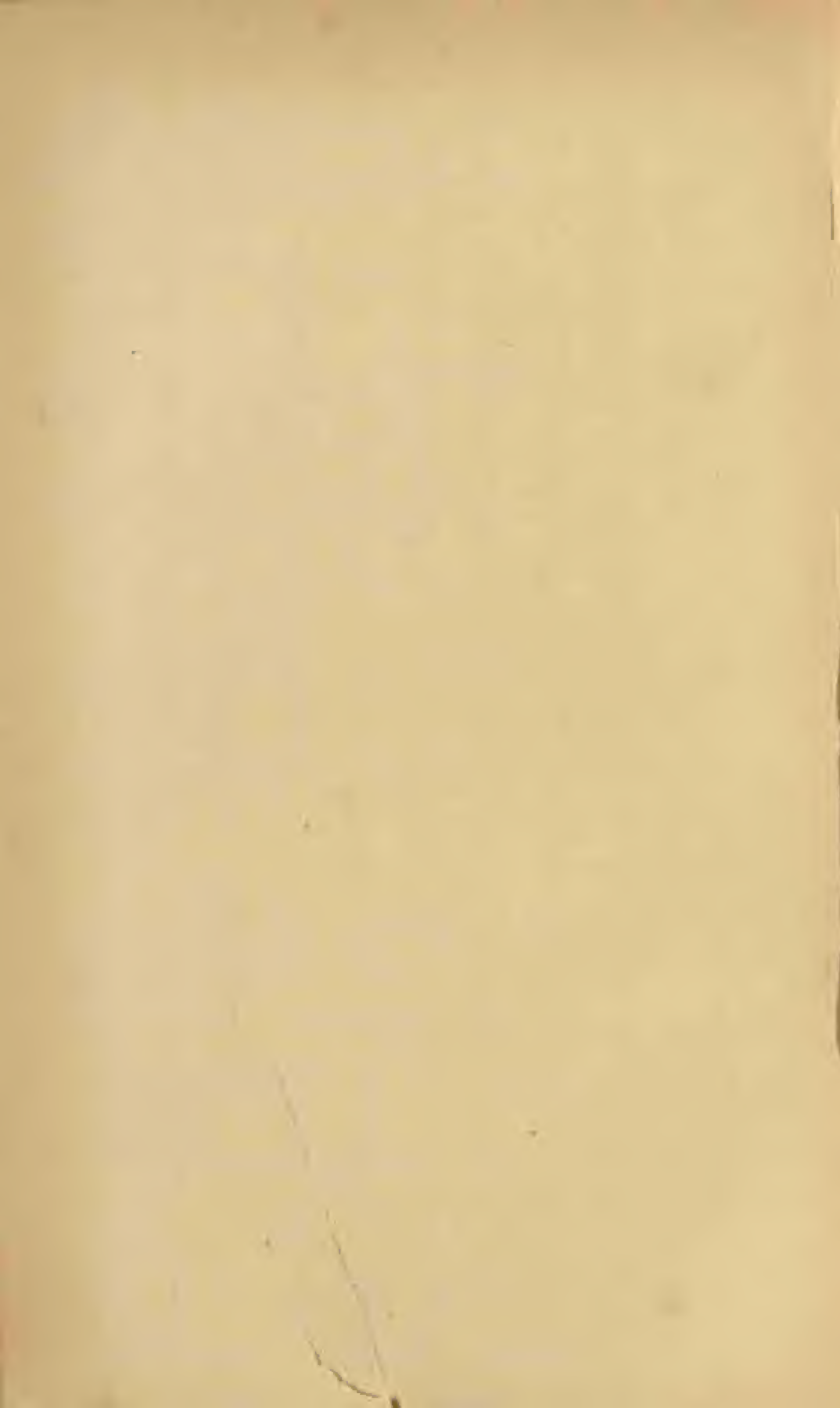
Crops.	Garden.					
	Sowing time.			Reaping time.		
Cholam	April .. .. .	..	..	July .. .. .	..	..
Kambo	May .. .. .	..	..	Do. .. .. .	..	..
Ragi	August .. .. .	..	..	January .. .. .	..	..
Thenai	September .. .. .	..	..	Do. .. .. .	..	..
Sirni	Do. .. .. .	..	..	Do. .. .. .	..	..
Vango	Do. .. .. .	..	..	Do. .. .. .	..	..
Tolmoro	November .. .. .	..	..	March .. .. .	..	..
Cammin	June .. .. .	..	..	August .. .. .	..	..

Details of the crops will be found under the chapter on "Agriculture." The only notable exception to the ordinary cultivation is that cholam is often grown as a first crop from June to September, and cotton as a second in the same year from October to April; similarly, under the hills a second crop is occasionally grown on dry land, in which case it is usually horse-gram.

Pasture, except in the forests and in the proximity of the hills, is scanty, especially in the black cotton and stony tracts.

Trade is considerable, chiefly in cotton, grain, cloths, and money. A large trade in cotton is carried on by traders coming from the south about March and April; they buy up cotton from the ryots or from middlemen, who employ a good number of hands in cleansing the cotton. It is loaded on carts which come from Madura and Tinnevely by thousands, and carried to the Virudupati and Tinnevely serews for loading and export; there is no press in Udamalpet, and that at Paladam is not only distant, but on the wrong line of rail for the southern trade.

Principal places are Udamalpet, population 5,061, which is the head-quarter station and a seat of some trade; its chief inhabitants are Komati and Nattukottai Chetties and Muhammadans. The various departments mentioned above have their head-quarters here. Komaringani, Karatoluvu, and Dhalli are all important villages.



APPENDICES.

No. II.

Statement of Population arranged with reference to Caste, according to Census of 1881.

Nationality.	Caste.	Population.		
		Males.	Females.	Total.
Hindus	Brahman (Priests)	14,915	14,877	29,792
	Kshatriya (Warriors)	1,408	1,541	2,949
	Shettil (Traders)	26,757	28,379	55,136
	Vellakkan (Agriclturists)	335,405	354,997	690,402
	Idaiyan (Shophords)	20,425	22,007	42,432
	Kasimálan (Artisans)	21,430	22,028	43,458
	Kanakkan (Writers)	533	529	1,062
	Kalkolan (Weavers)	39,083	42,559	81,641
	Vanniyar (Labourers and Cultivators)	52,135	55,945	107,480
	Kushavan (Potters)	8,067	8,227	16,294
	Sálaní (Mixed Caste)	31,796	34,372	66,068
	Shembadavan (Fishermen)	12,130	12,814	25,004
	Shánán (Toddy-drawer)	27,129	28,388	55,517
	Ambatian (Barbers)	10,013	10,049	20,062
	Vannán (Washermen)	11,415	11,901	22,317
	Others	62,769	65,753	128,522
	Pariah	106,092	110,178	216,270
	Caste not stated	391	383	774
	Caste Return apparently erroneously made in the Census Schedules	3	...	3
	Total ...	782,016	824,327	1,606,343
Muhammaddans	Lobbal	2,188	2,252	4,440
	Mappilla	14	6	20
	Moghal	47	55	102
	Pathán	957	1,045	2,002
	Said	2,731	3,892	6,623
	Shak	902	955	1,857
	Other Muhammedans	11,375	11,475	22,850
	Total ...	18,214	19,641	37,855
Native Christians	Native Christians	6,191	6,589	12,780
	Europeans	184	90	274
	Portuguese	145	137	282
	Others	100	57	157
	Grand Total ...	806,850	850,831	1,657,680

No. II-A.

Statement of Population with references to Occupation in the several Classes.

Taluka.	Professional, Class I.			Domestic, Class II.			Commercial, Class III.			Agricultural, Class IV.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Bhavani	736	131	867	124	763	887	195	35	230	24,398	19,767	44,165
Coimbatore	3,310	244	3,554	914	933	1,847	2,445	710	3,155	61,885	43,173	105,058
Kalleghal	555	79	634	929	652	1,581	549	139	688	18,757	14,040	32,797
Dharmapuram	2,030	205	2,235	584	1,056	1,640	921	222	1,143	87,392	84,797	172,189
Erode	2,041	344	2,385	1,176	1,763	2,939	1,100	225	1,325	45,140	84,911	130,051
Karur	2,026	161	2,187	617	599	1,216	659	367	1,026	39,445	84,847	124,292
Palladam	1,765	293	2,058	293	773	1,066	905	210	1,115	45,729	80,374	126,103
Pollachi	1,490	124	1,614	514	802	1,316	1,083	595	1,678	39,658	28,586	68,244
Sattanamangalam	1,455	157	1,612	471	1,097	1,568	649	150	799	32,951	24,307	57,258
Udumalpet	1,426	112	1,538	290	664	954	1,054	513	1,567	22,593	16,448	39,041
Total	16,701	1,830	18,531	5,247	9,161	14,408	9,769	3,174	12,943	365,574	273,940	639,514
Taluka.												
	Industrial, Class V.			Indefinite and Non-Productive, Class VI.			Total.					
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Bhavani	5,672	3,476	9,148	15,105	23,737	38,842	42,230	47,803	90,033	47,803	94,129	
Coimbatore	22,900	19,310	42,210	50,074	72,200	122,274	131,384	136,470	267,854	136,470	404,324	
Kalleghal	4,283	2,447	6,730	12,817	22,276	35,093	37,800	39,032	76,832	39,032	77,864	
Dharmapuram	10,850	14,337	25,187	37,147	59,810	96,957	94,800	100,432	195,232	100,432	295,664	
Erode	16,061	17,010	33,071	39,787	45,334	85,121	93,619	99,050	192,669	99,050	291,719	
Karur	12,103	11,519	23,622	30,123	44,200	74,323	68,985	81,770	150,755	74,323	125,078	
Palladam	21,103	19,435	40,538	53,945	58,543	112,488	106,116	119,275	225,391	119,275	344,666	
Pollachi	15,385	11,695	27,080	28,686	47,447	76,133	83,737	89,172	172,909	83,737	256,646	
Sattanamangalam	12,025	9,812	21,837	25,310	41,336	66,646	74,762	77,551	152,313	74,762	227,075	
Udumalpet	9,342	6,264	15,606	19,345	32,585	51,930	53,990	58,586	112,576	53,990	166,566	
Total	136,723	115,100	251,823	282,785	447,503	730,288	800,569	850,891	1,651,460	800,569	2,452,029	

No. II-C.

Statement of Population variously distributed.

District.	Inhabited Hamlets.	Population.								Number per square Mile.		
		Adults (above twelve years of age).				Children (under twelve years of age).		Age not stated.			Total.	
		Men.	Women.	Male.	Female.	Male.	Female.					
I	2	3	4	5	6	7	8	9	10			
Coimbatore	...	...	...	...	...	...	...	...	...	...
		641,882	676,078	264,918	274,647	84	100	1,057,280	211			
Classification of Population												
District.	Christians.					Blindas.	Mohammedans.	Hindus not stated.	Others.	Male Agri-culturists.	Male Non-Agriculturists.	
	Europeans.	Euro-Asians.	Native.	Others.	Not stated.							
...	274	272	10,111	...	9,609	1,000,943	27,865	131	35	321,990	455,650	
District.	Prevailing Languages.										Emigration during the year.	Immigration during the year.
										23	24	
Coimbatore	...	...	...	...	...	...	...	...	...	391	...
											...	

1, Tamil (1,086,077); 2, Telugu (244,271); 3, Canarese (231,290); 4, Hindustani (18,897).

No. II-D.

Statement showing the Number of Houses, Population, and Cattle in each Taluk.

Taluka.	Number of Houses in 1881.			Population.			Agricultural Stock.						
	Occu- pled.	Un- occu- pled.	Total.	Males.	Females.	Total.	Tilling Cattle.	Cows.	Buff- aloes.	Sheep and Goats.	Ploughs.	Horses.	Ponies.
Bhavani	19,651	1,475	21,126	46,220	47,893	94,123	10,680	15,000	4,598	41,005	9,215	7	100
Coimbatore	46,084	4,354	50,418	112,775	116,062	228,837	36,657	25,707	6,556	102,206	21,300	159	207
Dharmapuram	5,677	1,107	6,784	18,559	20,408	38,967	42,201	33,229	3,902	223,576	21,000	62	550
Udumalpet	43,554	5,065	48,619	94,800	100,432	195,232	18,678	9,274	3,217	36,061	9,651	9	147
Erode	23,915	2,914	26,829	53,666	58,586	112,252	3,405	8,000	2,870	32,700	1,000	28	300
Karur	43,816	5,887	47,653	91,793	94,012	185,805	36,253	39,385	7,325	92,680	18,572	7	365
Kollegal	1,611	275	1,886	4,826	5,028	9,854	14,250	22,180	2,180	21,450	4,050	10	150
Palladam	38,181	3,517	41,698	89,917	87,033	176,950	38,488	21,511	5,082	61,722	24,342	29	311
Pollachi	1,539	481	2,020	4,468	4,734	9,202	36,004	28,968	4,447	46,130	15,462	6	162
Suryanangalam	47,971	4,838	52,804	109,116	110,275	219,391	31,593	32,223	6,774	68,047	18,637	31	294
Total	354,920	34,944	389,864	800,850	850,824	1,651,674	505,680	235,720	45,410	750,057	159,283	348	2,617

The statistics of stock are incorrect, e.g., the tilling cattle (exclusive of immatures) and ploughs in Erode should be multiplied certainly by 15, the area actually cultivated in 1881 being 8,400 acres of wet and 237,427 acres of dry land; the Coimbatore, Palladam and Suryanangalam figures do not nearly give even a pair of cattle per plough. Erode has about 10,000 gardens; each garden has on an average a pen of sheep, or goats.

No. III.
Rent Roll for Fusti 1291.

Pattaba.	Fusti 1291.						Fusti 1281.					
	Single Pattaba.			Joint Pattaba.			Total Pattaba.			Percentage to Total Pattaba.		
	Number.	Assessment.	Average Assessment per Pattaba.	Number.	Assessment.	Average Assessment per Joint Pattaba.	Number.	Assessment.	Average Assessment of both Classes.	Percentage to Total Pattaba.	Average Assessment per Pattaba.	Percentage to Total Pattaba.
	Rs.	As.	A. P.	Rs.	As.	A. P.	Rs.	As.	As. P.	Rs.	As.	P.
Below Rs. 10 ..	62,434	3,37,743	5	6	60,203	3,47,710	5	12	5	122,627	6,85,453	62.54
Above Rs. 10 but below Rs. 30	21,765	3,49,245	16	0	34,393	5,90,209	17	5	5	56,158	9,45,314	29.66
Do. „ 30 do. „ 50	3,819	1,45,285	38	0	6,617	2,45,325	37	1	2	10,436	3,90,610	6.32
Do. „ 50 do. „ 100	2,001	1,33,467	66	11	3,198	2,15,725	67	10	8	5,189	3,49,192	2.64
Do. „ 100 do. „ 250	631	89,316	143	13	511	1,16,081	143	2	2	1,432	2,05,396	0.73
Do. „ 250 do. „ 500	89	29,318	328	4	83	28,401	343	4	3	172	57,709	0.08
Do. „ 500 do. „ 1,000	19	12,454	655	7	17	11,796	689	12	3	36	24,180	0.02
Above Rs. 1,000 ..	1	1,950	1,950	0	7	12,278	1,754	0	0	8	14,228	0.01
Total ...	90,740	10,95,677	12	1	105,319	15,73,695	14	15	1	196,068	26,72,282	100

No. III-A.

Comparative Statement of Puttala,

Fossil.	Number of Potholes																Total Number of Potholes			Average Area per Pothole.	Average Area per Acre.
	Under 10 Ea.		10 to 30		30 to 50		50 to 100		100 to 250		250 to 500		500 to 1,000		Above 1,000.		Total	Joint	Stipula		
Single.	Joint.	Single.	Joint.	Single.	Joint.	Single.	Joint.	Single.	Joint.	Single.	Joint.	Single.	Joint.	Single.	Joint.	Single.	Joint.	Stipula	Total		
1275	60,724	40,789	51,915	35,595	3,771	4,803	1,935	2,601	325	413	34	46	17	9	8	116,984	76,010	104,264	104,264		
1285	70,312	62,846	55,200	51,576	4,215	5,384	2,067	2,662	370	620	72	77	13	13	9	111,079	107,328	215,307	215,307		
1294	62,434	60,203	51,762	54,305	3,810	4,617	2,061	3,135	631	811	69	83	10	17	7	90,740	100,210	100,210	100,210		
																403,223	111,468	111,468	111,468		
										</											

[illegible]

No. III-B.

Statement of Ryots and Pottahs, Talukdar.

	Bluerip.	Cytha- fore.	Dierap- tuni.	Erods.	Karnr.	Kellgen.	Palladam.	Pollachi.	Satyama- palam.	Uthmal- pet.	Total.
Ryots	25,328	76,643	55,039	71,383	63,049	27,035	67,622	33,304	69,496	28,640	514,331
Putabs	13,746	28,770	20,497	25,029	18,425	14,297	23,322	10,323	23,180	11,499	156,068

No. IV.

Statement showing the different Sources of Irrigation belonging to Government.

Tanks.	Tanks.			Channels.			Jungle Streams.			Anicuts.			Remarks.
	Number of Tanks.	Average extent of cultivation within the last five years.	Assessment including all charges for water.	Number of Channels.	Average extent of cultivation within the last five years.	Assessment including all charges for water.	Number of Streams.	Average extent of cultivation within the last five years.	Assessment including all charges for water.	Number of Anicuts.	Average extent of cultivation within the last five years.	Assessment including all charges for water.	
Bharani ...	22	1,031	6,268	1,151	...	19	96	There are no anicuts other than those belonging to the foregoing works. All wells are private.
Colimbetore ...	33	695	3,450	4	10,042	73,549	11	1,937	7,794	...	...	...
Dharajpuram ...	9	118	574	6	6,365	63,945	...	...	167	...	...	...
Udamalpet ...	16	2,098	11,832	13	5,485	39,303	3	13	44	...	...	...
Erode ...	19	644	3,143	1	8,072	1,03,175	1	1	1	...	...	...
Kovil ...	3	803	3,206	12	12,381	90,828	3	165	501	...	...	...
Kollegal ...	16	3,069	16,627	3	33	169	3	1,745	5,792	...	...	...
Palladam ...	34	606	2,473	8	2,668	19,707	7	969	1,738	...	...	...
Pottichetty ...	4	300	1,472	6	4,674	22,454	14	543	2,879	...	...	...
Satyamnagalam ...	6	201	430	6	16,143	1,42,943	3	175	678	...	...	...
Total ...	156	11,319	48,481	59	66,353	5,50,124	45	4,867	19,060	

No. IV-A.

List of Irrigation Works classed as "Imperial" in the Coimbatore District, prepared in accordance with G.O., No. 284 I., of 5th May 1880.

Taluk.	Source of Supply.	Name of Group or System.	Name of Channel.	Length of Channel.	Name of Tanks.	Average cultivation of last five years.		Total of each Group or System.		Remarks.
						Acre.	Boween.	Acre.	Revenue.	
Bhavani.	Rainfed	Appagudal group.	M. C.	Gettemudram tank.	151	458	458	Rs.	Specially classed as "Imperial." Do. do. Do. do. Do. do. For each of these three channels a continuous record of expenditure is kept.
	...	.....	.....	...	Andiyer tank	271	1,445	1,445	
	...	.....	.....	...	Brahmadennu tank.	131	284	284	
	...	.....	.....	...	Vémpatti tank	192	318	318	
	...	.....	.....	...	Appagudal tank	91	181	181	
Erode	Bhavani river.	Kodaveri ancient system.	Arankottai channel.	20 22	4,118	20,404	836	2,585	
	...	.....	Tadepalli channel.	49 0	.....	13,650.10	325		
	...	Kalingarkyan ancient system.	Kalingarkyan channel.	57 0	.....	9,020	88,875		
Bhavani.	Rainfed	Isolated	* Kavundapadi tank.	237	733	237	26,794.2	18,004
	...	Isolated	Nagamaleikulam or Utharam tank.	329	614	329	733	614
	Rainfed	Isolated						

No. IV. A—(Continued).

List of Irrigation Works classed as "Imperial" in the Coimbatore District, prepared in accordance with G. O., No. 284 I., of 5th May 1880—(Continued).

Tahsil.	Source of Supply.	Name of Group or System.	Name of Channel.	Length of Channel.	Name of Tanks.	Average cultivation of last five years.		Total of each Group or System.		Remarks.
						Acres.	Revenue.	Acres.	Revenue.	
Erode	Handfed	Palaibetva group.	.....	..	Kemathór	92	340	...	...	.....
	..	.....	.....	..	Sandakypalayam tank.	106	391	...	...	.....
	..	.....	.....	..	Patturpallapalayam tank.	164	557	...	...	.....
	Chinna Noyil river.	Chinna Noyil	Painbádu channel.	2 0	.....	473	1,501	362	1,288	.....
..	Noyil	Chitrachávaní	Chitrachávaní channel.	7 0	.....	1,602	14,350	473	1,001	.....
	..	.....	.....	..	Puthukulam tank	79	500	.....	.....	.....
	..	.....	.....	..	Kolamampatti tank.	102	717	.....	.....	.....
	..	.....	.....	..	Narasimputhi tank.	545	3,742	.....	.....	.....
..	..	.....	.....	..	Krishnaputhi tank.	527	2,981	.....	.....	.....

Specially classed as "Imperial," as the group affects railway.

Do.

Do.

Supplied from an ancient on the Chinnu Noyil, a tributary of the Noyil river.

Supplied by the Chitrachávaní, ancient, or in ancient on the Noyil proper.

Specially classed as "Imperial."

Do.

Since abandoned as an irrigation work, vide G. O., No. 335 I., of 14th April 1882.

No. IV-A—(Continued).

List of Irrigation Works classed as "Imperial" in the Coimbatore District, prepared in accordance with C.O., No. 284 L, of 6th May 1880—(Continued).

Tahsil.	Source of Supply.	Name of Group or System.	Name of Channel.	Length of Channel.	Name of Tank.	Average cultivation of last five years.		Total of each Group or System.		Remarks.
						Area.	Revenue.	Area.	Revenue.	
Colim- bore (Cont.).	...	Singanallur an- icut.	Singanallur chan- nel.	M. C. 2 0	.....	ACR. 412	RS. 2,984	ACR.	RS.	Supplied by Singanallur anicut or 6th anicut on Nôyil.
	Singanallur tank.	849	3,430	1,251	6,414	
	...	Oddarpálaiyam anicut.	Oddarpálaiyam channel.	3 0	.....	500	3,546	780	4,498	Supplied by Oddarpálai- yam anicut or 7th an- icut on Nôyil.
	Oddarpálaiyam tank.	200	942	294	3,504	
	...	Irugár anicut ...	Irugár channel.	2 0	.....	284	2,504	611	3,704	Supplied by Irugár an- icut or 8th anicut on Nôyil.
Palla- dam.	...	Sôlúr anicut ...	Sôlúr channel ...	1 0	.....	230	1,516	403	1,846	Supplied by Sôlúr an- icut or 9th anicut on Nôyil.
	Periâyéri tank ...	381	2,186	403	1,846	
	...	Elâipálaiyam anicut.	Elâipálaiyam channel.	2 0	.....	245	626	246	620	Supplied by Elâipálai- yam anicut or 10th anicut on Nôyil.
	...	Mathappûr an- icut.	Mathappûr chan- nel.	2 0	.....	...	...	13,684	74,587	Supplied by Mathappûr anicut or 11th anicut on Nôyil.
Grand Total of the Imperial Irrigation under the Nôyil river ...						...	...	...	...

Cauvery ...	...	Pégarúr channel.	12 0	.....	1,932	9,230	4,661	33,060	No ancient. Channel has a head sluice.
Karúr ...	.....	Vámpal do.	9 0	.....	979	9,079			No ancient.
	.....	Nerúr do.	10 0	.....	1,690	14,171			No ancient.
	.....	Kallapuram ancient.	10 0	.....	1,129	5,921			Supplied by the Kallapuram ancient or its ancient on the Amarávati.
	.....	Komaralingam channel.	10 25	.....	1,557	7,933			Supplied by the Komaralingam ancient or its ancient on the Amarávati.
	.....	Kanadiputhúr ancient.	7 10	.....	532	4,957			Supplied by the Kanadiputhúr ancient or its ancient on the Amarávati.
Udamalpet.	.....	Sholamadevi channel.	4 10	.....	490	4,373			Supplied by the Sholamadevi ancient or its ancient on the Amarávati.
	.....	Kadathúr channel.	8 9	.....	975	7,825			Supplied by the Kadathúr ancient or its ancient on the Amarávati.
	.....	Kariyúr channel.	5 10	.....	201	2,318			Supplied by the Kariyúr ancient or its ancient on the Amarávati.
	.....	Karatholavu ancient.	9 5	.....	439	4,141			Supplied by the Karatholavu ancient or its ancient on the Amarávati.
	.....	Alangayam ancient.	7 20	.....	991	9,793			Supplied by the Alangayam ancient or its ancient on the Amarávati.
Dhárápuram.	.....	Dalaváypatnam channel.	7 13	.....	792	4,934			Supplied by the Dalaváypatnam ancient or its ancient on the Amarávati.

No. IV-A—(Continued).

List of Irrigation Works classed as "Imperial" in the Coimbatore District, prepared in accordance with G. O., No. 284 I, of 5th May 1880—(Continued).

Taluk.	Source of Supply.	Name of Group or System.	Name of Channels.	Length of Channel.	Name of Tanks.	Average cultivation of last five years.		Total of each Group or System.		Remarks.
						Acres.	Revenue.	Acres.	Revenue.	
Dhārāpuram (Cont.).	..	Dhārāpuram aul. cut.	Dhārāpuram channel.	15 10	.....	2,320	20,827	Acres.	Rs.	Supplied by the Dhārāpuram aulcut or 10th aulcut on the Amara-vati.
	..	Natural rock ..	Kotinjivādi channel.	8 45	.....	758	6,203			Channel takes off from a line of rock across river which forms a natural aulcut No. 11.
	..	Nanjalkatāyūr aulcut.	Nanjalkatāyūr channel.	3 56	.....	237	1,537			Supplied by the Nanjalkatāyūr aulcut or 13th aulcut on the Amara-vati.
	..	Chinnadharapuram aulcut.	Chinnadharapuram channel.	13 26	.....	1,798	7,751			Supplied by the Chinnadharapuram aulcut or 13th aulcut on the Amara-vati.
	..	Sundakāyāpālayam aulcut.	Sundakāyāpālayam channel.	6 6	.....	106	555			Supplied by the Sundakāyāpālayam aulcut or 14th aulcut on the Amara-vati.
	..	Nanjalkatāyūr aulcut.	Nanjalkatāyūr aulcut channel.	6 25	.....	200	1,576			Supplied by the Nanjalkatāyūr aulcut or 16th aulcut on the Amara-vati.

Karár.	Pallapálayam naicut.	Pallapálayam channel.	17 49	.....	3,308	15,822	Supplied by the Pal- pálayam naicut or 10th naicut on the Amardvati. Channel takes off from a Korombo.
Pallachi.	Rainfed	Tirunavallúr channel.	8 25	.....	782	3,034	Do.
		Bālanbāpuram channel.	7 30	.....	578	1,041	Do.
		Panchamadaví channel.	6 41	.....	335	1,643	Do.
		Sonaparetti chan- nel.	5 13	.....	648	3,327	Do.
		Pullyár channel.	8 13	.....	1,178	5,327	Do.
		Koyampalli chan- nel.	3 30	.....	814	3,363	Do.
		.....	...	.....	...	20,238	20,238
		Vellinai tank Oppidamangalam tank.	...	.....	359	1,237	Specially classed as "Imperial," Do. Do.
		.....	...	.....	397	1,847	
		.....	...	.....	203	529	
		.....	...	.....	540	2,423	
		.....	...	.....	971	3,507	
		.....	...	.....	551	2,750	
		.....	...	.....	1,777	8,288	
		.....	...	.....	592	2,579	
		.....	...	.....	164	396	
		.....	...	.....	156	524	
		.....	...	.....	61	161	
Udamal- put.	Tonsuár stream.†	.....	...	.....	...	4,634	20,126
	

† This stream eventually falls into the Amardvati.

* This is a tributary of the Áliyar river.

No. IV-A—(Continued).
*List of Irrigation Works classed as "Imperial" in the Coimbatore District, prepared in accordance with G.O., No. 284 I,
of 5th May 1889.—(Continued).*

Taluk.	Source of Supply.	Name of Group or System.	Name of Channel.	Length of Channel.	Name of Tank.	Average cultivation of last five years.		Total of each Group or System.		Remarks.
						Area.	Revenue.	Area.	Revenue.	
Udumalpet. (Cont.)	Sotikulam tank ...	Acres. 197	Rs. 739	Acres.	Rs.	Specially classed as "Imperial."
	Sonkulam tank ...	235	801			Do.
	Karavikulam tank.	161	479			Do.
	Thunnamthukulam tank.	108	545			Do.
	Periakulam tank ...	1,016	3,684			
	Kandolatta Manikam tank.	259	1,168			
	Kuthiraiyār stream.	Isolated.	.....	...	Kolamam tank ...	316	1,732	2,386	9,437	
Grand total of "Imperial" Irrigation works.						...	...	316	1,732	
								75,083	4,87,257	

No. IV-B.
Abstract Statement of "Imperial" Irrigation Works in the Coimbatore District.

Name of Works.	Channels.				Number of Tanks supplied.	Average of last five years.		Remarks.
	Main.		Branches or Distributaries.			Area.	Revenue.	
	Number.	Length.	Number.	Length.				
RIVER-FED TANKS AND CHANNELS.								
Bhavani River.								
Tadapatti channel ...	1	48	0	0	...	13,050	1,01,325	A continuous record of expenditure is kept for each of these three channels.
Arankottai do. ...	1	30	22	0	...	4,118	20,404	
Kalingasayan do. ...	1	57	0	0	...	9,026	58,876	
Total (Bhavani Irrigation)	3	125	22	0	...	26,194	2,16,604	8.08
Anandavathi River.								
Kallapuram channel ...	1	10	0	0	...	1,129	5,931	A continuous record of expenditure is kept for each of these twenty-two channels.
Kannurallangam do. ...	1	10	25	0	...	1,507	7,433	
Kannadiputhur do. ...	1	7	10	0	...	532	4,057	
Solamanadurai do. ...	1	4	10	0	...	490	4,873	
Kadathur do. ...	1	8	9	0	...	875	7,825	
Kanthyur do. ...	1	5	10	0	...	201	2,318	
Karathelavay do. ...	1	9	5	0	...	439	4,141	
Ahangayam do. ...	1	7	20	0	...	961	9,783	
Dulaivayalunam do. ...	1	7	13	0	...	792	4,194	
Elbarapuram do. ...	1	15	10	0	...	2,320	20,837	
Kolinjivadi do. ...	1	8	45	0	...	758	6,293	
Saujatsahaydr do. ...	1	3	56	0	...	237	1,537	
Chinnadapuram do. ...	1	13	26	0	...	1,798	7,761	

No. IV-B—(Continued).
Abstract Statement of "Imperial" Irrigation Works in the Coimbatore District—(Continued).

Name of Works.	Channels.					Number of Tanks supplied.	Average of last five years.		Remarks.	
	Main.		Branches or Distributaries.				Area.	Revenue.		
	Number.	Length.	M.	C.	Number.					Length.
Amravati River—(Cont.).										
Sundakayyalayam channel ...	1	5	5				105	555	5-23	
Nanjalkakutuchi do. ...	1	0	28				300	1,570	5-26	
Pallapalayam do. ...	1	17	49				3,208	15,522	4-79	
Trumanathur do. ...	1	8	20				752	3,034	3-87	
Idanabapuram do. ...	1	7	30				579	1,041	1-80	
Pandimasadevi do. ...	1	6	41				335	1,599	4-92	
Sonaparatti do. ...	1	5	13				548	3,327	6-07	
Pudiyur do. ...	1	8	19				1,178	5,327	4-52	
Koyampalli do. ...	1	3	30				814	3,362	4-13	
Total (Amravati Irrigation) ...	22	176	72	5	15	53-00	20,239	1,24,285	6-14	
Noyil River.										
Channels ...	12	37	0				5,518	33,633	6-00	
Tanks ...						18	8,056	40,254	5-00	
Total (Noyil Irrigation) ...	12	37	0			18	13,594	74,387	5-40	
Coosery River.										
Channels ...	3	31	0				4,561	33,080	7-25	

A continuous record of expenditure is kept for each of these twenty-two channels.

A continuous record of expenditure is kept for each of these twenty-two channels.

No. IV-C.

Statement of "Imperial" Irrigation Works, in the Coimbatore District, arranged according to Sources of Supply.

	Above 10,000 and less than 15,000 acres.			Above 2,000 and less than 10,000 acres.			Above 1,000 and less than 2,000 acres.			Above 500 and less than 1,000 acres.			Above 200 and less than 500 acres.			Below 200 acres.			Total.		
	Number.	Area.	Revenue.	Number.	Area.	Revenue.	Number.	Area.	Revenue.	Number.	Area.	Revenue.	Number.	Area.	Revenue.	Number.	Area.	Revenue.	Number.	Area.	Revenue.
Channels	1	13,660	1,01,325	4	18,772	1,51,928	8	12,963	72,971	16	10,921	68,007	10	5,300	31,012	2	157	883	46	61,716	4,37,729
River-fed tanks	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rein-fed tanks	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
groups	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rein-fed tanks isolated.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	1	13,660	1,01,325	4	18,772	1,51,928	10	15,304	87,656	16	14,221	79,127	32	10,619	58,657	30	2,377	8,570	86	75,033	4,87,267

No. IV-D.

Statement of "Imperial" Irrigation Works, in the Coimbatore District, classified according to the heads of Account with their Estimated Annual Outlay.

	Channels.			Tanks.			Total.			Estimated Annual Outlay.			
	No.	Area.	Revenue.	No.	Area.	Revenue.	No.	Area.	Revenue.	Original Works.	Upkeep.	Special Repairs.	Total.
System or Works for which a continuous record of expenditures is kept	25	47,032	3,40,890	...	...	...	25	47,032	3,40,890	2,605	18,102	18,706	37,813
Other Irrigation Works classed as "Imperial"	21	14,713	80,839	41	13,288	59,529	62	28,001	1,46,367	702	...	13,245	13,947
Agricultural Works	...	...	...	...	...	...	...	...	...	449	...	6,106	6,555
Total	46	61,745	4,27,729	41	13,288	59,529	87	75,033	4,87,257	2,756	18,102	28,057	57,915

No. IV-E.

Statement of "Minor" Irrigation Works in the Coimbatore District.

	Works above 200 acres.			Works above 50 acres.			Works above 10 acres.			Works below 10 acres.			Total.		
	No.	Area.	Revenue.	No.	Area.	Revenue.	No.	Area.	Revenue.	No.	Area.	Revenue.	No.	Area.	Revenue.
Channels	7	4,020	13,164	14	1,350	4,014	8	237	678	1	8	11	30	5,631	17,767
River-fed tanks	7	3,442	13,261	13	1,368	4,293	6	108	693	...	...	...	24	4,879	18,187
Rain-fed tanks in groups.	1	203	457	16	1,549	4,639	21	713	2,553	3	19	56	44	2,487	7,735
Rain-fed tanks isolated ...	2	489	936	17	2,024	6,713	26	628	1,304	6	22	36	51	3,163	9,688
Miscellaneous works ..	3	1,074	964	4	439	1,399	11	341	620	*	183	446	16	1,987	3,429
Total	20	9,337	28,781	63	6,630	21,658	74	1,987	6,788	10	232	679	107	18,086	56,206
															3.16

* Number cannot be ascertained as the works are lumped together in the District Irrigation Register.

No. IV-F.
Statement of Lands irrigated under the III Class Works in the District of Coimbatore for Field 1294 (1884-85).

[illegible]

No. IV-F—(Continued).

Statement of lands irrigated under the III Class Works in the District of Combarators for Fesli 1294 (1824-25) — (Continued).

[illegible]

No. IV-G—(Continued).
Statement of Lands irrigated under the Works of Class IV in the Coimbatore District for Faut 1294 (1884-85)—(Continued).

Nature of Work.	Ibani.														Total Government, Zamindari and Ibani.	
	Irrigated free of charge.				Irrigated and charged.				Total.				First crop		Total.	
	Extent.		Quit-rent.		First crop.		Second crop.		Extent.		Quit-rent and water-rate.		Extent.		First crop	
	First crop.	Second crop.	Land at one-third.	Water at two-thirds.	Extent.	Quit-rent.	Water-rate.	Extent.	Water-rate.	First crop.	Second crop.	Water-rate.	First crop.	Second crop.	Actually irrigated or charged as such.	Total.
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Imperial ...	ACRES.	ACRES.	RS.	RS.	ACRES.	RS.	RS.	ACRES.	RS.	ACRES.	ACRES.	RS.	ACRES.	ACRES.	ACRES.	ACRES.
Minor ...	4,722	1,570	726	2,319	73	...	145	224	382	4,705	2,094	2,472	32,089	1,614	34,313	...
	1,145	102	160	427	114	23	924	64	66	1,239	236	892	12,089	1,617	13,706	...
Total Government, Zamindari and Ibani—(Continued).																
Nature of Work.	First crop—(Continued).				Second crop.				Total.				Difference between columns 45 and 50, i.e., not revenue due to irrigation.			
	Assessment.		Extent.		Total.		Water-rate.		Total.		Share due to irrigation, i.e., sum of columns 45 and 47.		Deductions as per enclosure A.		Total.	
	Land.	Water.	Actually irrigated or charged as such.	Waste remitted.	Extent.	Water-rate.	Extent.	Water-rate.	Extent.	Water-rate.	Extent.	Water-rate.	First crop.	Second crop.	First crop.	Second crop.
	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
	RS.	RS.	ACRES.	ACRES.	RS.	RS.	ACRES.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Imperial ...	21,303	1,25,812	14,647	847	15,494	38,259	1,95,374	1,62,071	6,060	656	1,619	33,747	82,403	1,55,135	...	...
Minor ...	12,585	40,930	4,830	876	5,706	9,498	63,022	50,437	7,192	1,619	33,747	82,403	1,55,135	41,626	...	...

No. IV-H.

Statement showing Stakes and Pacottols and Area irrigated thereby for certain Channels.

Channels.	Miles.	Stakes.				Pacottals.				No. of Kolys.	Depth and width of the Channel when full.			
		Masonry.		Rough Stone.		Open Cuts.		Natural Bank.			Artificial Bank.		Depth.	Width.
		No.	Acres.	No.	Acres.	No.	Acres.	No.	Acres.		No.	Acres.		
Tidappalli	1.00	100	100	100	100	100	100	45	161	215	100	100	100	100
Arankottel	1.00	100	100	100	100	100	100	46	91	127	100	100	100	100
Samparetti	1.00	100	100	100	100	100	100	48	70	337	100	100	100	100
Vāngal	1.00	100	100	100	100	100	100	212	110	849	100	100	100	100
Pōgarūr	1.00	100	100	100	100	100	100	113	272	1,281	100	100	100	100
Panchamadevi	1.00	100	100	100	100	100	100	12	7	22	100	100	100	100
Dalavāpattanam	1.00	100	100	100	100	100	100	6	12	17	100	100	100	100
Dhārāpūran	1.00	100	100	100	100	100	100	9	10	8	100	100	100	100
Kolliyādi	1.00	100	100	100	100	100	100	233	12	20	100	100	100	100
Vīrājūnāgaram	1.00	100	100	100	100	100	100	25	549	100	100	100	100	100
Kolathupālayam	1.00	100	100	100	100	100	100	51	672	100	100	100	100	100
Nanjel Talayūr	1.00	100	100	100	100	100	100	5	55	14	100	100	100	100
Punjel Talayūr	1.00	100	100	100	100	100	100	12	49	100	100	100	100	100
Sundakampālayam	1.00	100	100	100	100	100	100	13	29	100	100	100	100	100
Alangayam	1.00	100	100	100	100	100	100	5	27	100	100	100	100	100

No. IV-H—(Continued).
Statement showing Sluices and Perattaka and Area irrigated thereby for certain Channels—(Continued).

Channels.	Masonry.				Rough Stone.				Open Cuts.				Puccahs.				Depth and width of the Channel when full.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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N.B.—This table is probably only approximately correct.

No. V.

Statement of Rainfall for a series of Ten Years.

—	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1874	·08	·32	·13	1·40	2·78	1·70	2·31	2·06	2·97	4·73	4·40	·76	23·73
1875	·06	...	·07	2·47	3·50	1·87	·96	1·27	1·29	8·90	1·97	·28	23·16
1876	...	...	·40	1·22	4·09	·50	1·25	2·04	2·04	2·16	·83	·13	17·46
1877	...	·10	·08	1·02	2·32	2·39	·38	·03	3·84	9·24	3·97	4·60	31·02
1878	·12	...	·01	2·16	2·66	1·61	2·84	3·97	3·17	4·80	2·43	·71	25·97
1879	·14	·32	1·98	·61	2·53	·64	4·57	1·19	3·20	4·27	1·80	·21	23·30
1880	·13	...	·08	3·10	4·0	·97	·94	3·30	1·64	7·23	·90	33·15	30
1881	...	...	·15	·38	4·07	·40	·30	2·44	2·66	4·70	1·30	18·10	10
1882	·09	...	·30	1·30	5·07	2·53	2·44	3·40	1·75	7·79	5·07	·55	32·08
1883	...	...	·30	1·0	3·71	·88	1·89	4·86	·79	10·06	4·98	2·52	31·04
Average.	·153	·074	·446	1·484	3·842	1·372	1·827	2·206	2·386	6·179	4·107	1·205	25·85

No. V-A.

Quinquennial Statement of Rainfall from 1854 ; by Teluka.

Period.	Columbatore.	Karyasimam.	Kollegal.	Pollachi.	Rode.	Bhavani.	Palladam.	Dharmapuram.	Karur.	Udumalpet.	District.	District exclusive of Kollegal.	Remarks.
1864-60	...	...	...	...	...	...	...	...	...	...	24·44	...	* The figures for 1861-65 contain those for the Nil-giris, and are too high. † From 1866.
1861-63	...	...	...	...	...	...	...	...	...	...	* 28·36	...	
1866-70	18·42	25·34	30·20	30·10	21·30	24·35	16·32	17·09	21·67	20·20	22·76	21·92	
1871-75	22·93	30·04	34·86	32·78	29·19	28·14	17·26	18·16	27·26	23·21	25·47	24·43	
1876-80	22·30	23·25	30·03	30·17	26·88	28·60	19·00	20·03	26·98	20·83	26·74	24·29	
1881	22·04	24·20	26·65	16·92	17·09	21·31	13·96	15·00	19·74	14·18	19·23	18·4	
1882	27·90	29·47	41·04	40·04	33·01	36·01	23·00	26·57	36·69	27·10	31·78	30·05	
Average 1866-82...	21·75	25·19	24·60	30·71	23·68	27·19	15·41	18·99	25·61	21·32	24·76	23·65	

No. V-B.

Statement of Rainfall by Seasons. Kár = April and May; S.W. (South-west Monsoon) = June to September; N.E. (North-east Monsoon) = October to March.

Taluka.	1866.				1867.				1868.				1869.			
	Kár.	S.W.	N.E.	Total.	Kár.	S.W.	N.E.	Total.	Kár.	S.W.	N.E.	Total.	Kár.	S.W.	N.E.	Total.
Bluváni ..	5.57	6.36	9.25	21.17	2.12	13.84	8.01	23.97	4.73	11.33	6.78	22.84	3.37	13.47	11.26	28.20
Karúr ..	4.43	4.18	9.69	18.30	1.42	6.03	5.23	12.68	8.55	12.39	6.47	27.41	3.05	7.70	10.71	21.46
Coimbatore ..	11.35	5.97	8.47	25.79	3.76	2.70	6.01	12.47	1.78	6.43	7.94	16.15	2.16	6.06	11.01	20.16
Kollegal ..	7.70	8.30	20.00	36	9.00	9.00	13.10	32.75	1.90	14.30	5.00	20.90	9.07	17.23	4.13	30.43
Osakuram ..	1.82	1.05	12.37	15.89	10.06	3.79	1.05	15.80	7.44	4.44	5.08	17.36	6.22	6.81	11.27	23.80
Udumalpet ..	4.43	5.54	13.30	23.27	9.58	1.96	9.66	21.20	4.96	14.55	3.04	23.14	6.20	6.04	11.27	23.39
Erode ..	8.52	4.60	12.15	25.27	5.00	6.00	4.23	15.23	1.50	10.96	5.93	18.23	3.95	9.34	8.53	21.82
Pallachi ..	2.77	15.99	18.57	37.33	10.58	14.00	6.30	31.48	4.89	11.84	10.19	26.89	4.16	12.65	14.45	31.26
Palladam ..	3.27	2.70	12.22	18.19	8.63	1.15	6.58	15.26	4.45	8.28	4.78	17.51	0.40	8.02	13.30	27.72
Satyamangalam ..	5.20	4.58	17.61	27.39	7.60	12.90	3.20	23.10	3.23	9.65	8.62	21.50	4.20	7.01	11.46	22.67
District Average ..	5.51	5.70	13.10	24.70	6.76	7.09	6.97	20.82	4.31	10.42	6.47	21.20	4.77	9.57	10.74	25.08

Taluka.	1870.				1871.				1872.				1873.			
	Kár.	S.W.	N.E.	Total.	Kár.	S.W.	N.E.	Total.	Kár.	S.W.	N.E.	Total.	Kár.	S.W.	N.E.	Total.
Bluváni ..	2.35	11.75	10.45	24.55	3.95	8.00	15.35	27.30	7.15	21.87	8.88	37.90	2.20	7.41	7.03	16.64
Karúr ..	.03	10.62	11.06	21.71	6.40	11.21	10.06	27.66	8.02	17.86	13.07	38.95	5.05	5.23	15.89	26.17
Coimbatore ..	1.79	7.46	8.26	17.51	4.06	3.28	10.18	25.54	3.55	10.00	10.61	24.21	5.88	7.09	9.16	22.87
Kollegal ..	4.00	20.42	6.40	30.82	8.79	12.60	14.72	36.11	5.50	24.28	8.71	38.49	11.20	11.24	13.58	35.82
Osakuram ..	.02	9.60	6.10	15.62	6.62	.92	7.38	15.32	3.67	7.91	7.35	18.63	6.25	3.35	7.63	17.22
Udumalpet ..	2.30	5.61	5.93	13.84	6.70	2.78	23.08	31.56	4.70	4.85	8.82	19.37	0.42	3.01	12.91	25.34
Erode ..	5.69	10.48	10.10	26.27	5.70	5.85	15.35	26.90	3.95	11.25	2.88	18.18	4.45	5.90	13.50	23.81
Pallachi ..	2.26	10.71	7.57	20.54	7.20	14.41	23.22	44.83	5.67	10.16	6.22	27.04	10.04	13.32	5.85	29.21
Palladam ..	1.20	4.75	7.76	13.71	9.65	1.45	18.75	23.00	2.71	6.92	4.43	14.06	5.74	2.81	12.43	21.00
Satyamangalam ..	3.48	12.00	13.65	29.13	4.40	7.10	17.80	29.30	2.60	11.40	11.95	25.95	5.65	4.77	16.75	26.17
District Average ..	2.34	11.0	8.72	22.06	5.34	7.67	16.47	29.48	4.74	13.25	8.24	26.23	6.07	6.41	11.95	24.46

No. V-B.—(Continued).
Statement of Rainfall by Seasons. Kâr = April and May; S.W. (South-west Monsoon) = June to September; N.E. (North-east Monsoon) = October to March—(Continued).

Taluka.	1874.				1875.				1876.				1877.			
	Kâr.	S.W.	N.E.	Total.	Kâr.	S.W.	N.E.	Total.	Kâr.	S.W.	N.E.	Total.	Kâr.	S.W.	N.E.	Total.
Bhavani ...	6.80	13.60	10.00	31.00	10.31	6.88	11.10	28.29	5.83	9.07	3.15	18.05	2.97	6.22	18.20	27.30
Karur ...	2.87	7.78	10.40	21.05	4.20	6.16	12.53	22.98	4.50	8.54	3.09	17.03	3.07	7.10	10.11	20.88
Coimbatore ...	4.94	6.87	8.39	19.10	4.01	4.69	14.21	22.91	7.73	7.73	4.64	19.39	2.97	6.22	18.20	27.30
Kollegal ...	7.00	15.07	14.71	36.78	5.60	11.27	8.41	25.68	8.49	19.88	3.60	31.97	7.85	13.35	18.02	30.22
Dharmapuri ...	3.32	1.11	8.64	13.07	5.05	1.15	11.75	17.06	5.61	1.92	2.73	10.46	1.80	6.60	18.22	28.68
Udumalpet ...	3.40	3.21	14.94	21.55	8.07	2.20	6.97	19.24	4.90	3.50	5.0	12.50	3.40	7.63	13.06	26.01
Erode ...	11.45	10.70	4.00	26.35	4.80	3.35	11.55	20.70	6.10	6.85	2.10	15.05	2.95	0.58	11.77	25.31
Pollachi ...	5.80	18.05	8.13	32.58	7.30	11.78	10.03	29.75	6.45	9.25	3.55	19.45	2.60	11.05	18.20	32.75
Palladam ...	3.17	2.20	7.08	12.45	3.40	0.45	11.32	15.67	4.45	8.35	2.68	12.70	4.05	8.35	21.39	30.70
Satyamangalam ...	0.72	11.30	12.85	24.87	0.05	4.05	17.45	28.15	6.35	6.05	4.55	17.25	2.90	8.23	19.42	30.55
District Average ...	5.02	9.0	9.97	23.99	5.98	5.30	11.83	23.11	6.21	7.75	3.50	17.46	3.40	8.72	17.86	29.98
Taluka.	1878.				1879.				1880.				1881.			
	Kâr.	S.W.	N.E.	Total.	Kâr.	S.W.	N.E.	Total.	Kâr.	S.W.	N.E.	Total.	Kâr.	S.W.	N.E.	Total.
Bhavani ...	4.81	15.70	8.07	28.64	1.89	17.43	9.80	29.12	5.05	7.88	20.01	33.54	4.08	10.52	5.81	21.31
Karur ...	8.10	14.08	11.05	35.03	1.15	12.15	7.73	21.03	7.79	9.13	18.01	34.93	3.97	10.17	5.00	19.74
Coimbatore ...	6.77	5.51	5.43	17.71	4.08	4.92	10.08	19.08	4.87	5.00	18.45	28.02	5.00	2.65	14.69	22.64
Kollegal ...	6.72	19.94	14.43	40.99	4.75	18.00	13.04	35.79	11.50	16.21	10.13	47.10	0.00	12.75	5.10	26.85
Dharmapuri ...	7.22	3.02	0.98	17.82	5.15	3.70	7.57	16.42	5.25	3.41	21.16	29.82	2.69	0.5	12.29	15.08
Udumalpet ...	3.01	4.69	10.15	17.76	4.95	2.39	6.92	13.57	6.47	4.49	22.95	29.01	4.00	4.5	9.13	14.18
Erode ...	5.16	7.52	6.73	19.40	2.02	15.83	5.23	23.08	9.62	8.60	17.64	36.52	3.42	8.30	5.91	17.60
Pollachi ...	7.05	17.01	4.64	28.90	11.50	7.00	11.45	30.05	7.31	9.29	22.42	39.22	3.15	3.85	9.92	16.92
Palladam ...	4.15	4.04	4.73	12.92	4.40	5.05	7.64	15.09	4.55	2.45	19.73	26.73	2.90	2.10	8.95	13.95
Satyamangalam ...	3.16	13.08	8.72	24.96	2.24	0.16	7.32	18.72	7.22	4.00	13.53	24.75	4.37	7.40	12.37	24.20
District Average ...	5.61	10.60	8.19	24.40	4.15	9.36	8.67	22.18	7.10	6.74	19.39	33.14	4.45	5.80	8.07	19.23

No. V-B—(Continued).

Statement of Rainfall by Seasons. Kār = April and May; S. W. (South-west Monsoon) = June to September; N. E. (North-east Monsoon) = October to March—(Continued).

Taluka.	1892.				1893.				Average of 14 years.			
	Kār.	S. W.	N. E.	Total.	Kār.	S. W.	N. E.	Total.	Kār.	S. W.	N. E.	Total.
Bhavani	8.80	7.80	19.22	36.01	5.02	9.76	24.28	39.26	4.91	11.10	11.49	27.50
Karār	10.17	7.16	19.50	36.83	8.23	7.98	13.38	29.59	4.79	9.55	11.18	25.52
Coimbatore	6.16	10.68	11.33	27.90	2.37	4.84	16.38	23.44	4.90	6.93	11.27	23.10
Kollegal	7.57	17.87	16.70	41.94	9.90	12.25	17.43	39.58	7.61	15.29	19.05	31.95
Dhavadpuram	7.75	8.81	14.01	29.57	2.72	8.34	11.11	17.17	4.02	3.78	9.05	18.85
Edamupet	6.03	3.03	17.85	26.91	4.24	2.21	17.90	24.35	5.23	4.01	12.20	21.44
Eronda	5.44	8.94	18.70	33.08	7.57	9.47	23.23	40.27	5.78	9.05	9.62	25.44
Pollachi	5.22	27.69	7.23	40.14	3.25	20.60	18.65	42.50	5.94	13.74	11.14	30.82
Palladam	9.10	8.70	10.20	28	3.15	6.30	16.50	25.95	4.98	4.05	10.51	19.54
Satyamangalam	7.15	6.67	12.65	26.47	6.40	7.77	20.47	34.64	4.63	8.21	12.85	25.69
District Average	7.29	9.76	14.72	31.77	4.73	8.46	17.95	31.14	5.25	8.56	11.22	25.03

No. V-C.

Fortnightly Abstract of Rainfall for a series of Years.

Year.	January.		February.		March.		April.		May.		June.		July.	
	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.
1866 ...	...	...	...	...	...	...	08	81	120	276	105	97	44	81
1867 ...	...	...	...	...	...	52	06	186	325	167	29	31	163	109
1868 ...	...	100	08	...	...	15	08	62	136	223	315	55	138	115
1869 ...	16	...	07	16	27	01	75	98	64	305	53	65	30	144
1870 ...	44	...	...	...	01	37	20	63	77	72	220	92	105	93
1871 ...	59	23	...	61	101	...	13	167	288	66	07	22	52	89
1872 ...	...	...	45	...	...	...	84	100	292	78	328	48	83	150
1873 ...	...	...	190	07	01	...	180	166	73	237	42	30	61	56
1874 ...	...	05	...	32	03	10	06	140	214	64	55	120	85	140
1875 ...	...	09	...	...	04	63	117	130	177	173	107	80	28	07
1876 ...	...	...	...	...	18	22	47	75	387	112	34	25	39	116
1877 ...	...	...	10	...	02	46	46	59	47	185	202	37	13	25
1878 ...	12	...	...	...	01	56	160	112	243	91	70	153	131	...
1879 ...	...	14	...	32	02	186	32	29	99	344	30	34	63	388
1880 ...	...	13	...	...	...	08	236	33	255	144	27	70	40	48
1881 ...	...	...	...	...	...	15	03	35	220	187	35	14	24	00
1882 ...	99	...	...	...	...	30	110	20	189	408	167	85	118	120
1883 ...	...	...	...	...	21	16	25	75	100	271	86	52	121	67
Average.	12	12	14	08	15	27	61	94	168	104	109	57	75	109

Year.	August.		September.		October.		November.		December.		Whole Year.	Average of Rainy Days.
	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.		
1866 ...	38	67	06	153	501	302	71	133	285	37	2504	35.7
1867 ...	10	98	209	58	302	311	14	15	01	...	2073	31.8
1868 ...	28	73	109	83	218	157	65	98	...	...	1958	35.2
1869 ...	407	38	103	55	97	371	249	152	190	07	2520	46.2
1870 ...	141	163	271	36	271	223	213	19	40	03	2173	42.7
1871 ...	29	134	164	75	240	261	645	183	14	01	2874	45.2
1872 ...	129	134	306	75	84	104	129	320	116	17	2611	52.0
1873 ...	90	164	119	184	471	257	39	57	06	12	2439	46.5
1874 ...	83	123	264	43	114	359	236	202	53	23	2378	53.7
1875 ...	36	91	10	119	433	427	173	24	28	...	2373	46.1
1876 ...	100	134	89	225	148	68	37	46	02	11	1745	35.5
1877 ...	61	12	138	446	207	717	284	115	335	125	3102	57.2
1878 ...	104	293	205	112	220	260	132	111	32	39	2637	55.7
1879 ...	31	88	284	36	80	341	170	10	09	12	2230	48.7
1880 ...	204	110	163	01	348	374	347	765	51	89	3319	67.8
1881 ...	58	166	101	155	73	198	841	129	192	37	1719	45.0
1882 ...	57	283	22	133	303	413	307	200	40	15	3206	69.6
1883 ...	414	72	44	85	677	429	415	88	177	75	3104	46.0
Average.	115	125	145	113	261	313	217	153	78	25	2499	47.91

Fortnightly Detailed Statement of Rainfall

Taluka.	Year.	January.		February.		March.		April.		May.	
		First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.
Bhavanli ...	1896.	...	...	...	...	...	...	...	157	140	260
No. of rainy days ...		...	...	...	...	...	...	...	2	2	3
Karur ...		...	...	...	...	...	...	5	20	379	30
No. of rainy days ...		...	...	...	...	...	...	1	1	2	2
Coimbatore ...		...	...	...	...	...	...	320	40	135	640
No. of rainy days ...		...	...	...	...	...	...	1	1	2	4
Kollegal ...		...	...	...	...	...	...	40	140	50	640
No. of rainy days ...		...	...	...	...	...	...	1	2	1	5
Dharpuram ...		...	...	...	...	...	...	45	...	30	112
No. of rainy days ...		...	...	...	...	...	...	1	...	1	2
Udamalpet ...		...	...	...	...	...	...	185	...	114	140
No. of rainy days ...		...	...	...	...	...	...	2	...	1	3
Erode ...	1897.	...	...	...	...	...	...	...	180	250	422
No. of rainy days ...		...	...	...	...	...	...	...	1	1	2
Pollachi ...		...	...	...	...	...	...	36	...	121	130
No. of rainy days ...		...	...	...	...	...	...	2	...	2	3
Palladam ...		...	...	...	...	...	...	20	...	22	275
No. of rainy days ...		...	...	...	...	...	...	1	...	1	4
Satyansingalam ...		...	...	...	...	...	...	...	280	40	200
No. of rainy days ...		...	...	...	...	...	...	...	3	2	4
Bhavanli ...		...	...	...	...	...	72	...	70	...	112
No. of rainy days ...		...	...	...	...	...	2	...	1	...	3
Karur ...		...	...	...	...	...	...	...	142	...	...
No. of rainy days ...		...	...	...	...	...	...	...	2	...	...
Coimbatore ...	1898.	...	...	...	...	...	65	...	74	208	34
No. of rainy days ...		...	...	...	...	...	1	...	4	3	2
Kollegal ...		...	...	...	...	...	...	...	300	430	150
No. of rainy days ...		...	...	...	...	...	...	...	2	4	1
Dharpuram ...		...	...	...	...	...	...	...	570	250	180
No. of rainy days ...		...	...	...	...	...	...	...	4	4	2
Udamalpet ...		...	...	...	...	...	10	...	55	629	274
No. of rainy days ...		...	...	...	...	...	1	...	2	5	2
Erode ...		...	...	...	...	...	...	...	100	100	300
No. of rainy days ...		...	...	...	...	...	...	...	1	1	2
Pollachi ...		...	...	...	...	...	258	57	127	748	126
No. of rainy days ...		...	...	...	...	...	3	2	3	4	2
Palladam ...	1899.	...	...	...	...	...	115	...	122	494	162
No. of rainy days ...		...	...	...	...	...	1	...	4	5	2
Satyansingalam ...		...	...	...	...	...	...	10	220	310	210
No. of rainy days ...		...	...	...	...	...	...	...	3	5	3
Bhavanli ...		...	330	80	...	...	...	...	185	30	255
No. of rainy days ...		...	3	1	...	...	...	...	2	1	2
Karur ...		...	310	...	...	...	...	...	...	680	175
No. of rainy days ...		...	2	...	...	...	...	...	...	4	2
Coimbatore ...		...	129	...	...	...	94	2	33	125	75
No. of rainy days ...		...	4	...	...	...	4	1	3	3	3
Kollegal ...		...	...	...	...	...	...	...	...	20	140
No. of rainy days ...		...	...	...	...	...	...	...	...	1	4
Dharpuram ...		...	124	...	...	...	...	...	160	60	465
No. of rainy days ...		...	2	...	...	...	...	...	2	3	4
Udamalpet ...		...	232	...	...	...	...	...	40	40	415
No. of rainy days ...		...	3	...	...	...	...	...	1	1	4
Erode ...		...	180	...	...	...	...	...	50	80	20
No. of rainy days ...		...	2	...	...	...	...	...	1	1	1
Pollachi ...		...	65	...	...	...	30	85	115	54	232
No. of rainy days ...		...	2	...	...	...	...	...	1	1	4
Palladam ...		...	57	...	...	...	1	1	...	105	340
No. of rainy days ...		...	4	...	...	...	...	...	...	4	4
Satyansingalam ...		...	260	...	...	...	30	...	40	143	140
No. of rainy days ...		...	1	...	...	...	1	...	1	2	2

D.

by Taluka from 1866 to 1883.

June.		July.		August.		September.		October.		November.		December.		Total.
First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	
...	...	...	130	78	220	...	250	565	290	50	...	...	...	218
...	...	...	2	2	4	...	2	8	4	1	...	...	...	30
121	...	46	...	12	163	...	76	450	33	...	155	165	190	1830
2	...	1	...	1	2	...	3	8	6	...	3	6	2	40
100	410	...	...	...	...	...	87	150	180	88	127	419	...	2646
1	3	...	...	...	...	...	4	2	5	2	3	5	...	33
450	...	...	50	...	100	...	230	1141	050	50	...	159	...	36
3	...	...	1	...	1	...	3	8	3	1	...	3	...	32
...	...	...	...	...	...	...	165	517	20	120	165	325	20	1589
150	96	5	3	...	...	...	2	6	1	1	2	4	1	22
4	6	1	1	...	...	...	...	198	259	91	163	623	...	2056
...	...	...	...	...	...	...	...	3	5	3	2	8	...	39
...	...	...	100	...	50	...	300	545	500	...	200	...	100	2647
...	...	...	9	...	1	...	1	2	2	...	1	...	1	14
144	352	208	481	284	...	...	40	139	337	236	366	703	16	3733
4	10	6	14	4	...	...	1	3	6	3	3	6	1	68
20	120	...	...	...	...	...	150	687	220	...	110	126	79	1819
1	2	...	...	...	...	...	3	5	4	...	2	4	1	28
90	10	...	...	140	65	...	26	593	743	80	45	275	...	2823
1	...	1	...	4	4	...	7	9	8	2	2	5	...	52
...	...	377	...	37	640	60	364	365	...	...	...	...	...	2460
...	...	5	...	3	6	1	7	6	...	...	...	...	...	34
50	...	145	...	50	48	300	...	250	313	...	...	...	...	1298
1	...	3	...	1	2	3	...	4	6	...	...	...	...	22
10	84	58	116	...	3	44	0	225	228	4	65	13	...	1355
2	4	6	4	...	2	8	2	7	8	1	2	1	...	57
...	...	300	60	...	...	150	155	649	631	130	...	...	...	3275
...	...	4	1	...	2	4	...	6	3	1	...	...	...	28
...	...	20	21	40	118	180	...	113	82	...	...	...	...	1580
...	...	1	2	1	2	1	...	5	4	...	...	...	...	26
...	...	64	123	...	...	...	...	584	367	...	5	...	...	2166
...	...	2	4	...	...	...	...	4	7	...	2	...	...	29
...	...	...	...	200	300	...	...	200	123	...	...	...	...	1423
...	...	...	...	2	3	...	...	3	3	...	...	...	...	15
87	281	268	657	70	...	144	4	68	589	11	4	...	...	3526
2	6	5	7	2	...	7	1	4	4	1	1	...	...	54
...	...	54	10	...	42	...	9	211	152	...	80	...	...	1609
...	...	2	1	...	2	...	1	2	6	...	1	...	...	27
110	...	360	100	...	270	340	50	269	260	...	...	...	...	2510
2	...	4	1	...	3	3	2	6	4	...	...	...	...	37
228	...	277	97	37	...	263	201	...	43	...	225	...	...	2284
2	...	3	2	1	...	4	3	...	1	...	2	...	...	27
506	...	145	232	23	173	75	83	197	80	...	60	...	...	2741
2	...	5	2	1	3	3	1	3	3	...	3	...	...	34
232	145	56	50	20	49	32	59	254	75	150	92	...	...	1633
6	2	5	3	1	1	1	2	4	3	4	3	...	...	53
310	60	175	...	60	...	659	175	260	120	100	20	...	...	2099
4	1	2	...	1	...	7	1	3	2	1	1	...	...	28
162	...	78	...	...	173	31	102	35	192	165	...	...	...	1736
4	...	1	...	...	3	2	3	3	4	3	...	...	...	34
849	...	126	40	15	54	35	04	175	656	54	63	05	...	2314
6	...	3	3	4	1	2	1	5	5	4	2	1	...	46
217	...	131	147	...	413	115	111	324	29	...	50	...	...	1829
1	...	4	2	...	4	1	3	4	1	...	1	...	...	26
442	1401	177	308	108	42	06	...	452	289	135	45	...	...	2689
8	3	3	4	8	1	1	...	3	5	2	1	...	...	49
497	50	86	30	...	...	123	40	85	91	67	148	...	...	1751
3	1	2	1	...	...	2	2	2	3	1	3	...	...	32
200	...	210	216	...	...	210	130	338	157	15	127	...	...	2160
1	...	2	2	...	...	2	1	4	3	1	2	...	...	24

Fortnightly Detailed Statement of Rainfall.

Taluka.	Year.	January.		February.		March.		April.		May.	
		First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.
Bharani	1869.	...	...	...	11	...	...	50	...	30	257
No. of rainy days		...	...	...	1	...	...	1	...	1	4
Karur		12	...	...	...	...	12	50	...	85	160
No. of rainy days		1	...	...	...	...	1	2	1	3	5
Coimbatore		60	...	30	20	...	...	52	30	46	98
No. of rainy days		2	...	1	1	...	...	1	1	3	3
Kollegal		...	...	...	60	...	...	70	...	150	710
No. of rainy days		...	...	...	1	...	...	1	...	2	7
Dharmaparam		18	...	70	...	...	...	150	210	60	202
No. of rainy days		2	...	1	...	...	...	1	2	1	5
Udumalpet		...	...	55	50	...	...	120	115	60	225
No. of rainy days		...	...	1	1	...	...	1	2	1	4
Erode		...	...	...	40	...	...	...	...	...	325
No. of rainy days		...	...	...	1	...	...	...	...	...	4
Pollachi		03	...	...	100	...	...	130	30	95	250
No. of rainy days		2	...	...	1	...	...	1	1	2	4
Palladam		75	...	12	03	...	...	75	...	127	435
No. of rainy days		2	...	1	1	...	...	1	...	2	5
Satyamangalam		...	...	45	...	...	...	60	10	40	310
No. of rainy days		...	...	1	...	...	...	2	1	1	4
Bharani	1871.	...	...	...	...	...	...	...	...	145	90
No. of rainy days		...	...	...	...	...	...	...	...	1	2
Karur		75	...	...	...	...	...	...	...	...	...
No. of rainy days		1	...	...	...	...	...	...	...	...	...
Coimbatore		37	...	...	...	...	...	...	...	...	...
No. of rainy days		1	...	...	...	...	...	...	...	...	...
Kollegal		...	...	...	...	...	...	...	...	...	...
No. of rainy days		...	...	...	...	...	...	...	...	...	...
Dharmaparam		140	03	...	...	...	...	...	...	...	...
No. of rainy days		2	1	...	...	...	...	...	...	...	...
Udumalpet		40	...	...	...	...	...	...	...	...	...
No. of rainy days		2	...	...	...	...	...	...	...	...	...
Erode		...	...	...	...	...	...	...	...	...	...
No. of rainy days		...	...	...	...	...	...	...	...	...	...
Pollachi		90	...	...	15	130	105	118	...	...	03
No. of rainy days		1	...	...	1	1	1	3	...	...	1
Palladam		60	...	...	...	90	25	60	...	...	45
No. of rainy days		1	...	...	...	1	1	2	...	...	1
Satyamangalam		...	...	...	...	...	...	...	...	...	...
No. of rainy days		...	...	...	...	...	...	...	...	...	...
Bharani	1871.	100	...	200	258	...	...	55	35	305	...
No. of rainy days		1	...	3	4	...	...	1	1	4	...
Karur		64	...	73	20	...	...	...	...	...	...
No. of rainy days		1	...	1	1	...	...	...	...	...	...
Coimbatore		40	...	15	46	...	...	...	...	...	...
No. of rainy days		1	...	1	2	...	...	...	...	...	...
Kollegal		...	50	...	205	...	...	...	...	...	...
No. of rainy days		...	1	...	1	...	...	...	...	...	...
Dharmaparam		37	10	...	45	423	...	...	...	...	...
No. of rainy days		2	1	...	1	3	...	...	...	...	...
Udumalpet		...	...	80	202	...	...	...	...	...	...
No. of rainy days		...	...	2	2	...	...	...	...	...	...
Erode		130	...	40	280	...	...	...	...	...	...
No. of rainy days		1	...	1	3	...	...	...	...	...	...
Pollachi		130	40	...	20	50	...	...	...	...	...
No. of rainy days		1	2	...	1	2	...	...	...	...	...
Palladam		125	...	30	38	...	...	...	...	...	...
No. of rainy days		1	...	1	2	...	...	...	...	...	...
Satyamangalam		100	...	30	245	...	...	...	...	...	...
No. of rainy days		1	...	1	2	...	...	...	...	...	...

(Continued).

by Taluka from 1866 to 1883—(Continued).

June.		July.		August.		September.		October.		November.		December.		Total.
First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	
55	60	92	180	440	50	380	240	160	646	155	114	50	...	2920
2	1	2	2	5	1	4	3	3	5	4	4	2	...	45
...	25	10	87	382	87	116	83	338	114	135	145	297	15	2148
...	1	1	3	7	2	5	3	5	6	8	1	3	1	59
34	74	...	35	488	15	35	15	10	340	367	149	118	58	2070
3	4	...	3	6	1	1	1	1	6	10	2	4	2	56
...	18	50	830	1230	50	120	20	50	232	...	125	...	...	3180
...	2	1	3	9	1	2	1	1	4	...	4	...	...	39
20	...	20	35	404	...	102	...	12	394	220	189	224	...	2390
1	1	1	2	6	...	2	...	1	8	8	3	3	...	47
81	83	11	99	339	...	54	07	04	303	326	308	69	...	2239
5	3	2	4	7	...	1	2	1	8	11	4	2	...	60
100	50	...	224	140	145	190	85	183	330	130	90	80	...	2182
1	1	...	3	3	3	3	3	2	5	2	1	1	...	32
225	395	115	290	100	55	15	70	...	310	705	180	87	...	3115
5	8	7	6	4	6	2	4	...	6	7	2	3	...	71
...	...	...	160	303	...	280	...	105	525	215	180	215	...	2772
...	...	...	3	3	...	2	...	1	5	4	2	2	...	34
40	...	04	50	192	...	390	25	106	510	180	40	265	...	2267
1	...	1	2	4	...	6	2	3	4	2	2	3	...	39
345	120	146	50	60	145	220	65	520	385	140	...	...	...	2455
5	3	5	1	2	3	6	1	4	4	4	...	...	...	42
447	04	40	...	323	452	291	45	137	483	311	45	55	...	2771
6	2	1	...	6	6	6	1	4	7	7	2	2	...	53
130	66	105	78	40	...	327	...	177	131	225	32	70	...	1751
3	2	3	3	2	...	4	...	2	4	5	1	2	...	40
390	...	347	...	325	520	410	80	440	200	...	...	...	...	3082
3	...	4	...	3	4	3	1	5	2	...	...	...	...	30
200	...	...	...	252	71	353	34	54	82	271	...	48	10	1612
4	...	...	...	6	2	7	1	1	3	9	...	3	1	44
190	127	...	80	64	110	20	...	56	212	220	...	65	...	1890
1	5	...	5	4	2	2	...	2	4	8	...	1	...	41
78	140	50	45	70	280	360	25	310	250	390	...	60	...	2567
2	1	1	1	1	3	4	1	2	3	3	...	1	...	31
327	204	156	232	100	41	...	111	143	125	165	20	40	20	2051
4	8	7	10	5	2	...	6	3	3	5	1	2	1	64
...	55	80	...	60	...	280	...	345	110	131	...	40	...	1371
...	1	2	...	1	...	4	...	3	4	3	...	1	...	25
255	146	140	115	125	20	455	05	530	260	285	100	30	...	2785
6	5	3	3	5	1	4	1	7	5	3	1	1	...	57
...	...	...	50	20	190	365	205	77	220	510	...	...	...	2730
...	...	...	1	1	5	7	5	7	4	7	...	...	...	50
37	...	112	112	...	187	001	72	167	208	330	74	50	...	2656
1	...	1	...	5	6	3	...	5	4	6	2	3	...	50
82	...	...	60	...	...	65	25	165	274	898	470	...	10	2554
2	...	...	3	...	3	1	3	3	3	8	3	...	1	44
...	...	...	220	150	350	270	290	700	260	302	...	...	...	3625
...	...	...	2	4	3	3	3	5	4	2	...	...	...	40
15	...	...	...	19	28	...	...	274	300	585	38	16	...	2361
1	...	...	...	2	2	...	...	4	5	6	2	1	...	39
118	...	...	165	...	...	...	...	170	278	1310	173	05	...	3150
4	...	...	3	...	...	...	...	3	2	8	4	1	...	37
40	15	110	...	40	110	155	115	345	170	425	50	55	...	2690
1	1	3	...	2	3	4	2	4	4	8	1	1	...	47
588	06	307	284	86	10	70	...	15	417	997	623	20	...	4483
12	7	12	9	4	1	3	...	1	3	10	5	1	...	80
...	...	...	...	...	95	100	...	240	182	920	406	...	...	2305
...	...	...	...	1	1	1	...	3	3	7	2	...	...	27
100	115	...	...	440	95	50	...	255	295	85	70	...	...	2230
1	1	...	...	4	1	1	1	4	4	3	2	...	...	32

Fortnightly Detailed Statement of Rainfall

Taluka.	Year.	January.		February.		March.		April.		May.	
		First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.
Bhavani	1872.	...	...	...	...	...	...	20	215	335	145
No. of rainy days		...	...	...	...	...	...	1	2	4	2
Karur		...	...	...	...	...	...	12	90	485	214
No. of rainy days		...	...	...	...	...	...	1	1	3	2
Coimbatore		...	...	...	...	...	...	230	85	40	...
No. of rainy days		...	...	...	...	...	...	1	2	3	...
Kollegal		...	...	80	...	...	...	30	...	420	100
No. of rainy days		...	...	1	...	...	...	2	...	3	1
Dharpuram		...	...	48	...	...	...	80	118	63	95
No. of rainy days		...	...	1	...	...	...	1	1	2	3
Udumalpet		...	...	30	...	...	...	132	100	148	10
No. of rainy days		...	...	1	...	...	...	2	1	4	3
Erode	65	255	75	
No. of rainy days	2	3	1	
Pollachi	90	225	242	...	
No. of rainy days	1	2	3	...	
Palladam	50	100	121	...	
No. of rainy days	1	1	2	...	
Satramangalam	300	...	...	...	...	...	100	70	
No. of rainy days	1	...	...	...	...	...	2	1	
Bhavani	1873.	...	...	...	...	...	...	40	50	20	110
No. of rainy days		...	...	...	...	...	...	3	1	1	2
Karur		...	...	102	...	...	...	237	41	...	285
No. of rainy days		...	...	3	...	...	...	5	2	...	3
Coimbatore		...	...	128	...	...	...	18	210	52	308
No. of rainy days		...	...	5	...	...	...	1	5	4	8
Kollegal		...	...	...	...	...	...	630	100	305	65
No. of rainy days		...	...	...	...	...	...	4	1	3	2
Dharpuram		...	...	185	20	...	...	55	268	...	302
No. of rainy days		...	...	4	1	...	...	3	1	...	4
Udumalpet		...	...	220	...	...	...	215	287	90	350
No. of rainy days		...	...	4	...	...	...	4	3	3	3
Erode	235	...	...	...	175	50	...	220	
No. of rainy days	2	...	...	...	2	1	...	3	
Pollachi	150	...	...	...	232	360	57	355	
No. of rainy days	4	...	...	...	4	2	3	6	
Palladam	340	50	...	...	85	274	...	215	
No. of rainy days	2	1	...	...	2	3	...	2	
Satramangalam	550	...	...	...	230	25	210	140	
No. of rainy days	1	...	...	...	6	4	3	2	
Bhavani	1874.	...	...	...	...	...	...	65	150	210	241
No. of rainy days		...	...	...	...	...	...	2	2	4	5
Karur		...	...	...	...	...	...	...	17	265	65
No. of rainy days		...	...	...	...	...	...	...	1	4	1
Coimbatore		...	...	...	...	...	...	...	15	218	65
No. of rainy days		...	...	...	...	...	...	...	5	8	4
Kollegal		...	...	...	...	...	...	...	70	570	120
No. of rainy days		...	...	...	...	...	...	...	2	6	3
Dharpuram		...	...	...	...	...	...	...	102	230	...
No. of rainy days		...	...	...	...	...	...	...	1	4	...
Udumalpet		...	...	50	...	...	...	...	170	135	45
No. of rainy days		...	...	1	...	...	...	...	2	3	3
Erode	150	210	35	
No. of rainy days	1	4	
Pollachi	1	4	
No. of rainy days	15	15	05	...	360	160	60	
Palladam	1	1	1	...	5	6	4	
No. of rainy days	10	...	...	...	145	125	50	
Satramangalam	1	...	...	...	2	4	1	
No. of rainy days	50	...	...	...	40	27	05	
	1	...	...	...	1	4	2	

(Continued).

by Taluks from 1866 to 1883—(Continued).

June.		July.		August.		September.		October.		November.		December.		Total.
First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	
250	...	200	337	220	490	687	03	70	61	380	307	30	...	3740
4	...	2	5	7	4	8	1	2	5	4	6	1	...	58
500	33	...	289	64	393	410	97	63	130	195	526	303	30	3808
5	1	...	7	3	4	10	5	5	4	6	12	8	2	79
400	31	00	65	25	35	248	31	74	300	226	332	126	03	2421
2	6	1	2	1	2	9	5	4	5	5	9	5	1	63
490	50	...	120	570	230	479	128	310	161	40	170	100	10	3849
5	1	...	5	4	2	5	4	4	3	1	5	2	1	49
510	...	29	29	...	...	232	...	100	40	64	289	142	62	1893
4	...	1	2	...	...	5	...	3	1	2	11	5	2	43
257	...	73	10	...	...	120	25	95	...	130	504	63	60	1837
4	...	4	2	...	...	4	2	2	...	5	11	5	2	52
386	06	...	50	325	40	320	...	25	45	...	223	...	...	1818
2	1	...	1	4	1	5	...	1	2	...	6	...	...	29
176	24	480	208	25	85	277	140	80	...	70	359	93	20	2794
5	10	7	6	5	3	6	5	2	...	4	9	3	1	72
100	...	...	62	...	...	490	40	...	121	...	106	127	...	1406
1	...	...	1	...	...	4	1	...	3	...	7	4	...	25
215	80	...	125	65	70	415	170	30	100	285	200	210	...	2585
3	1	...	4	3	1	8	3	4	5	3	7	4	...	50
...	...	...	290	202	140	14	95	464	148	64	22	15	...	1064
...	...	...	1	2	3	2	5	6	6	3	1	1	...	37
...	...	...	67	196	20	25	215	672	812	...	...	...	08	2077
...	...	...	2	4	2	2	4	11	9	...	...	...	1	48
57	84	116	42	37	182	01	190	601	185	20	40	...	09	2287
7	4	9	4	2	4	1	1	7	6	1	2	...	1	72
...	14	...	...	110	490	...	510	580	704	04	...	50	...	3683
...	3	...	...	3	7	...	6	8	4	1	...	1	...	43
...	04	...	...	...	100	...	231	191	145	60	144	...	11	1722
...	1	...	...	...	2	...	2	7	5	2	2	...	1	35
31	40	55	08	72	15	...	60	485	180	161	205	40	...	2534
3	3	5	1	2	1	...	1	8	3	6	2	...	2	54
...	...	...	85	100	201	...	200	635	380	100	...	...	...	2381
...	...	...	3	2	2	...	4	7	6	3	...	...	...	35
272	123	340	150	95	215	97	46	110	45	65	150	...	25	3831
11	7	8	5	4	7	6	1	4	1	2	1	...	2	78
...	...	...	...	60	70	...	131	400	210	198	...	38	...	2100
...	...	...	...	1	1	...	2	4	4	3	...	...	...	26
60	40	...	...	15	212	...	160	580	170	265	...	...	1	2647
2	1	...	...	1	4	...	1	7	2	2	...	...	...	37
99	304	126	99	08	125	780	73	303	309	25	204	72	08	3096
3	2	4	5	1	4	9	6	6	10	2	3	1	1	73
03	...	64	143	25	349	104	...	67	345	227	248	68	...	2104
1	...	1	3	1	3	6	...	2	7	6	3	2	...	43
30	212	144	38	28	21	119	65	08	326	269	107	13	29	1910
3	9	5	4	5	1	6	1	1	9	5	4	1	2	77
50	90	20	347	175	205	607	13	181	990	130	170	...	...	3798
2	1	1	5	4	2	7	3	2	7	3	2	...	...	50
16	03	16	...	...	60	07	...	137	180	371	175	...	...	1307
1	1	1	...	...	2	1	...	4	7	5	4	...	...	32
38	150	25	53	...	55	...	...	173	178	378	239	377	85	2154
73	...	2	7	...	1	...	...	3	7	3	3	2	2	53
3	...	2	4	2	3	...	...	110	265	310	340	...	10	2655
140	070	294	236	142	53	...	30	...	255	238	170	90	25	2258
4	12	10	14	6	3	...	2	...	4	4	4	2	1	84
30	40	25	...	...	130	...	...	...	365	155	160	15	...	1245
1	1	2	...	...	1	...	...	...	8	3	4	1	...	29
100	...	80	140	170	60	475	105	175	395	220	165	...	80	2287
3	...	2	3	3	2	4	4	4	7	6	3	...	1	50

Fortnightly Detailed Statement of Rainfall

Taluka.	Year.	January.		February.		March.		April.		May.	
		First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.
Bhavani	1875.	...	...	...	...	193	342	170	388	134	...
No. of rainy days		...	...	...	...	3	3	3	8	4	...
Karur		...	...	...	...	26	...	26	373	130	...
No. of rainy days		...	...	...	...	1	...	1	3	3	...
Coimbatore		...	04	...	...	99	96	41	184	80	...
No. of rainy days		...	1	...	...	3	2	2	2	4	...
Kollegal		...	...	...	...	50	...	30	230	130	...
No. of rainy days		...	...	...	...	1	...	2	2	2	...
Dharmaparam		...	...	...	...	45	...	34	161	114	190
No. of rainy days		...	...	...	...	1	...	1	2	2	4
Uthamapet	1876.	...	...	...	...	60	260	207	110	210	...
No. of rainy days		...	...	...	...	2	2	2	2	2	4
Erode		...	...	...	...	90	245	165	85	85	...
No. of rainy days		...	...	...	...	1	3	3	2	1	...
Pollachi		...	...	...	...	35	140	245	45	300	...
No. of rainy days		...	...	...	...	1	2	2	1	4	...
Palladam		...	...	...	...	...	...	100	80	160	...
No. of rainy days		...	...	...	...	...	...	1	1	3	...
Satyamangalam		...	30	...	...	...	60	40	100	165	300
No. of rainy days		...	1	...	...	...	1	1	4	3	5
Bhavani	1876.	...	...	...	...	...	58	65	414	105	...
No. of rainy days		...	...	...	...	...	2	1	4	4	...
Karur		...	...	...	...	65	...	69	364	77	...
No. of rainy days		...	...	...	...	2	...	1	4	2	...
Coimbatore		...	...	...	...	80	25	132	128	249	198
No. of rainy days		...	...	...	...	2	1	2	4	5	3
Kollegal		...	...	...	...	61	201	95	...	610	142
No. of rainy days		...	...	...	...	1	3	3	...	6	2
Dharmaparam		...	...	...	...	25	...	20	123	138	...
No. of rainy days		...	...	...	...	1	...	1	3	5	...
Uthamapet	1876.	...	...	...	...	...	25	150	210	105	...
No. of rainy days		...	...	...	...	...	1	3	4	2	...
Erode		...	...	...	...	...	65	155	270	180	...
No. of rainy days		...	...	...	...	...	1	3	6	4	...
Pollachi		...	...	...	...	...	50	65	440	90	...
No. of rainy days		...	...	...	...	...	1	2	3	3	...
Palladam		...	...	...	...	01	...	06	100	430	110
No. of rainy days		...	...	...	...	1	...	1	1	4	2
Satyamangalam		...	...	...	...	...	...	80	15	440	120
No. of rainy days		...	...	...	...	...	...	4	1	6	2
Bhavani	1877.	...	...	...	...	240	...	194	72	175	...
No. of rainy days		...	...	...	...	1	...	2	2	5	...
Karur		...	...	...	...	20	20	05	...	322	...
No. of rainy days		...	...	...	...	1	1	1	...	8	...
Coimbatore		...	...	...	...	19	56	63	63	22	219
No. of rainy days		...	...	...	...	1	2	2	1	3	3
Kollegal		...	...	...	...	...	170	20	155	30	590
No. of rainy days		...	...	...	...	3	1	3	1	5	...
Dharmaparam		...	...	...	...	25	88	...	76	14	...
No. of rainy days		...	...	...	...	1	1	...	2	3	...
Uthamapet	1877.	...	...	05	...	16	07	250	45	10	25
No. of rainy days		...	...	1	...	1	1	1	3	1	2
Erode		...	...	...	...	...	50	...	60	125	231
No. of rainy days		...	...	...	...	...	1	...	1	2	...
Pollachi		...	...	...	...	...	...	30	215	...	15
No. of rainy days		...	...	...	...	...	...	1	4	...	1
Palladam		...	...	...	...	...	03	...	...	65	30
No. of rainy days		...	...	...	...	...	1	...	...	1	1
Satyamangalam		...	...	...	...	...	...	...	...	60	210
No. of rainy days		...	...	...	...	...	...	...	...	1	4

(Continued).

by Taluks from 1866 to 1883—(Continued).

June.		July.		August.		September.		October.		November.		December.		Total.
First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	
288	...	18	20	103	140	20	89	491	240	50	...	136	...	2829
4	...	2	2	4	2	2	2	6	5	2	...	1	...	53
113	...	...	...	50	283	...	100	450	617	78	20	71	...	2208
3	...	...	...	9	4	...	4	7	10	4	1	2	...	45
94	179	191	133	111	09	...	42	394	772	139	20	39	...	2291
3	6	1	4	2	2	...	5	8	9	6	4	3	...	67
300	04	...	50	82	122	05	501	421	370	40	...	...	...	2308
3	1	...	4	3	1	1	6	5	7	1	...	...	...	41
13	20	...	...	...	15	04	60	513	842	255	20	...	...	1748
2	1	...	...	...	1	1	1	9	8	5	3	...	...	41
05	133	...	80	...	...	...	...	355	267	85	110	...	...	1924
1	3	...	5	...	...	...	...	4	7	3	5	...	...	40
38	...	105	...	...	100	...	35	606	260	150	10	40	...	2070
1	...	2	...	...	3	...	1	8	5	4	1	1	...	38
65	165	137	382	33	02	55	40	370	462	169	30	...	...	2975
4	9	10	13	4	1	2	3	4	7	4	2	...	...	73
55	...	...	...	...	...	...	40	707	393	50	10	...	...	1567
2	...	...	...	...	...	...	1	6	5	3	1	...	...	23
105	...	20	05	05	175	25	190	270	590	725	20	...	...	2815
3	...	1	1	1	2	2	2	5	7	3	1	...	...	43
52	50	64	168	235	08	113	107	107	105	08	05	...	...	1805
2	1	3	3	5	2	2	2	1	3	1	2	...	...	38
140	...	50	139	270	75	80	178	...	84	...	...	...	...	75
1	...	...	1	5	4	1	2	2	...	1	...	...	...	1
...	35	08	230	242	07	08	183	112	68	64	61	23	02	1930
...	3	1	4	3	4	2	5	7	2	4	1	1	1	65
30	46	122	121	470	407	52	680	155	...	...	...	...	...	3147
1	3	4	4	3	7	1	4	3	...	...	...	...	...	43
...	...	...	09	07	45	...	131	187	04	07	08	...	17	1046
...	...	...	2	1	1	...	4	2	2	2	1	...	2	37
15	...	20	89	...	...	...	269	265	18	19	78	...	25	1250
2	...	1	4	...	...	...	3	2	1	3	3	...	2	31
80	...	25	60	175	05	55	105	120	...	...	00	...	...	1505
3	...	2	2	5	2	1	3	2	...	...	2	...	...	35
...	120	135	260	...	30	30	320	70	240	20	25	...	...	1975
...	4	6	...	...	3	2	3	1	3	2	1	...	...	40
...	...	...	70	30	158	...	140	100	02	00	05	...	...	1273
...	...	...	1	1	1	...	4	1	1	2	2	...	...	22
20	...	20	05	350	...	60	180	135	210	60	60	...	...	1725
2	...	1	1	1	...	2	3	3	3	3	3	...	...	35
288	...	35	88	...	...	368	398	227	491	100	75	370	05	3114
3	...	1	3	...	...	8	5	4	6	2	2	6	1	49
...	...	...	...	...	...	1162	524	274	495	407	60	3	55	2588
...	...	...	...	...	...	2	7	3	4	1	1	4	1	34
207	101	08	...	51	06	17	177	132	1167	119	131	169	46	6730
7	5	3	...	8	3	4	7	8	13	11	6	3	...	95
140	36	...	49	...	...	377	738	294	896	222	...	120	...	3922
3	2	...	2	...	...	7	7	6	10	3	...	2	...	55
400	...	...	...	08	...	51	407	274	549	433	75	341	95	2838
7	...	...	...	1	...	2	8	6	10	9	2	7	3	61
163	20	...	...	...	...	45	568	115	670	366	235	422	52	3001
8	1	...	...	...	...	4	7	4	12	6	5	5	3	63
140	05	02	23	...	09	115	635	131	430	280	03	180	13	5301
0	2	1	2	...	1	4	6	4	11	6	3	8	1	63
120	202	95	...	450	50	55	170	105	550	120	160	820	65	3275
3	7	3	...	11	4	3	3	2	6	5	2	5	2	64
778	...	...	...	...	...	490	...	210	895	583	240	168	40	3079
4	...	...	...	...	...	3	3	3	7	5	3	3	2	33
115	...	...	...	...	...	415	...	215	1035	187	45	400	...	3065
3	...	...	...	...	...	6	9	5	10	4	2	2	...	57

Fortnightly Detailed Statement of Rainfall

Talukas.	Year.	January		February		March		April		May	
		First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.
Bharatn	1878.	...	...	...	...	...	...	80	137	60	179
No. of rainy days		...	...	...	...	...	...	2	2	1	4
Karur		68	...	...	...	...	...	203	145	462	...
No. of rainy days		1	...	...	...	...	...	116	86	138	37
Coimbatore		12	...	...	...	...	...	2	5	8	5
No. of rainy days		1	...	...	...	...	...	10	100	257	315
Kollegal		...	...	...	...	...	...	1	1	3	2
No. of rainy days		...	...	...	...	...	...	98	139	140	348
Dharmaparam		05	...	...	...	...	...	1	3	2	4
No. of rainy days		1	...	...	...	...	...	70	116	...	115
Udamalpet		...	...	...	...	...	...	1	2	...	3
No. of rainy days		...	...	...	...	...	...	25	100	...	330
Erode		...	...	...	...	...	...	1	1	...	4
No. of rainy days		...	...	...	...	...	...	146	140	205	220
Pollich		...	...	...	...	...	...	1	2	3	2
No. of rainy days		...	...	...	...	...	...	65	70	260	...
Palladam		35	...	...	...	...	...	...	1	2	2
No. of rainy days		1	...	...	...	...	...	30	55	85	146
Satyamangalam		07	...	...	...	...	...	1	1	2	6
No. of rainy days		...	...	...	...	...	...	15	10	05	159
Bharatn	1879.	37	...	32	...	308	...	...	...	...	...
No. of rainy days		1	...	2	...	3	...	2	1	1	4
Karur		...	...	05	...	150	...	25	10	...	60
No. of rainy days		...	...	1	...	4	...	1	1	...	2
Coimbatore		...	...	101	...	235	...	22	11	56	308
No. of rainy days		...	...	2	...	7	...	2	2	1	12
Kollegal		65	...	05	...	70	...	120	20	25	210
No. of rainy days		2	...	1	...	3	...	3	2	...	7
Dharmaparam		04	...	05	...	154	...	10	70	...	488
No. of rainy days		1	...	1	...	5	...	1	1	...	3
Udamalpet		...	...	53	...	240	...	08	05	05	413
No. of rainy days		...	...	2	...	4	...	1	1	1	9
Erode		41	...	25	...	115	...	05	...	...	197
No. of rainy days		1	...	1	...	2	...	1	...	...	3
Pollich		...	...	75	...	205	...	...	70	...	1060
No. of rainy days		...	...	3	...	4	...	1	...	...	12
Palladam		...	...	...	...	230	...	75	40	...	325
No. of rainy days		...	...	...	...	3	...	1	2	...	5
Satyamangalam		...	...	25	...	53	...	39	55	...	189
No. of rainy days		...	...	1	...	2	...	1	2	...	3
Bharatn	1880.	15	...	...	...	...	...	67	105	216	177
No. of rainy days		1	...	...	...	...	...	2	1	6	7
Karur		02	...	...	...	...	...	281	152	196	150
No. of rainy days		1	...	...	...	...	...	7	2	5	3
Coimbatore		04	...	01	...	...	...	225	17	104	141
No. of rainy days		2	...	1	...	...	...	7	4	7	6
Kollegal		40	...	...	...	...	...	84	133	92	220
No. of rainy days		1	...	...	...	...	...	4	2	8	7
Dharmaparam		08	...	...	...	...	...	280	125	65	35
No. of rainy days		1	...	...	...	...	...	3	3	3	3
Udamalpet		63	...	...	...	...	...	260	84	245	69
No. of rainy days		1	...	...	...	...	...	3	2	3	3
Erode		37	...	...	...	...	...	343	125	337	145
No. of rainy days		1	...	...	...	...	...	3	1	7	3
Pollich		...	...	...	...	...	...	415	64	222	50
No. of rainy days		1	...	...	...	...	...	4	2	3	2
Palladam		15	...	...	...	...	...	123	65	206	60
No. of rainy days		1	...	...	...	...	...	6	1	3	1
Satyamangalam		12	...	...	...	...	...	143	80	317	180
No. of rainy days		1	...	...	...	...	...	4	4	7	4

(Continued).

by Talaks from 1866 to 1883—(Continued).

June.		July.		August.		September.		October.		November.		December.		Total.
First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	
74	54	159	244	50	491	182	342	122	428	35	145	47	30	2864
4	2	4	6	4	7	5	5	4	5	1	2	3	2	83
15	...	222	182	80	448	268	183	504	307	70	67	185	...	3509
1	...	5	2	2	6	8	4	7	2	2	1	2	...	51
78	22	08	57	90	40	170	08	90	103	94	143	27	52	1771
4	3	4	6	6	3	8	3	8	6	6	5	2	4	84
165	90	410	80	280	269	445	275	575	577	162	05	04	...	4099
3	2	6	3	6	6	5	6	4	5	2	1	1	...	59
05	...	110	07	08	65	02	...	380	71	107	100	02	33	1782
1	...	4	4	1	3	3	...	4	3	3	4	1	1	42
05	...	90	55	70	155	70	15	330	190	382	125	02	35	1776
3	...	3	5	4	2	3	1	7	2	6	3	1	3	49
175	239	291	122	85	470	292	165	57	351	55	145	...	65	2940
3	3	4	5	5	7	4	4	4	3	3	3	...	1	55
255	90	20	467	439	20	343	67	02	05	162	05	...	100	2990
4	3	1	9	11	2	10	5	4	1	4	3	...	2	67
...	45	124	...	...	186	00	...	70	118	70	180	...	...	1292
1	1	4	...	...	4	1	...	2	3	3	2	...	...	25
45	178	130	45	10	670	180	70	355	285	140	...	55	10	2400
2	5	6	3	1	6	5	2	2	3	5	1	3	1	55
194	05	48	775	05	252	643	23	160	235	223	...	40	05	2115
3	4	3	7	1	4	7	1	4	3	3	...	2	1	57
70	...	209	435	80	202	153	...	70	250	293	...	...	03	2103
1	...	2	6	1	4	5	...	3	6	4	...	...	1	42
01	10	27	330	08	27	77	01	...	452	185	08	21	06	1905
1	4	7	12	2	5	6	1	...	11	8	1	1	1	86
05	30	90	702	20	70	865	18	367	875	207	...	...	...	2579
1	1	2	9	1	3	9	1	6	5	4	...	...	...	62
...	...	222	...	...	40	108	05	344	207	...	...	23	15	1642
...	...	5	...	...	3	2	1	7	4	...	...	2	1	37
...	22	07	148	...	18	37	...	169	182	...	...	10	36	1867
4	2	7	...	...	1	1	...	5	3	...	...	1	3	45
48	30	240	400	100	115	525	130	98	159	87	...	...	...	2308
2	1	2	5	1	3	7	2	5	2	...	...	...	...	43
20	116	...	216	80	90	145	33	763	50	...	...	50	00	9005
1	5	...	6	2	2	3	1	...	5	1	...	...	1	47
...	...	210	...	...	60	35	...	380	100	...	09	01	15	1500
...	...	3	...	...	2	1	...	6	1	...	...	1	1	26
24	55	20	458	22	48	205	15	35	340	169	100	...	10	1873
2	1	2	7	1	1	7	1	1	6	2	1	...	...	42
...	45	15	29	304	182	209	...	538	231	235	869	110	08	3254
...	2	1	4	4	5	7	...	7	6	4	6	3	2	69
...	...	2	3	5	5	7	...	5	10	7	9	...	...	3423
35	137	20	10	124	141	92	01	507	474	254	258	167	23	2855
4	3	5	3	5	4	4	1	9	10	10	9	4	2	100
60	116	40	130	502	414	380	...	531	688	225	305	...	30	4719
1	4	5	5	4	8	8	...	6	11	7	4	...	1	88
06	09	...	...	215	23	89	...	112	300	401	1280	30	25	2982
1	2	...	...	3	1	2	...	5	7	8	7	3	1	51
15	22	...	...	12	...	...	...	115	391	237	1460	38	43	2901
1	1	...	...	1	...	...	...	4	5	8	7	3	2	44
...	37	25	127	278	125	307	...	440	259	249	697	45	37	3655
...	3	1	6	5	3	6	...	9	6	7	7	2	2	71
194	227	293	115	80	...	40	10	400	150	504	1117	45	25	3922
5	6	8	8	4	...	1	1	5	3	5	7	2	1	68
...	50	...	...	75	45	75	...	280	530	249	708	...	110	2678
...	2	...	...	2	1	4	...	6	4	6	6	...	2	45
...	55	30	25	135	50	105	...	280	301	232	430	35	30	2475
...	1	3	1	3	2	4	...	6	11	8	7	2	1	70

Fortnightly Detailed Statement of Rainfall

Taluka.	Year.	January.		February.		March.		April.		May.	
		First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.	First half.	Second half.
Uruvandi	1881.	...	...	...	...	25	...	36	212	251	...
No. of rainy days		...	...	...	...	1	...	1	4	4	...
Karur		...	...	...	...	...	...	...	214	180	...
No. of rainy days		...	...	...	...	...	...	...	6	4	...
Coimbatore		...	08	...	...	13	...	...	391	160	...
No. of rainy days		...	2	...	...	2	...	...	11	5	...
Kollegal		...	...	...	...	20	20	240	270	260	...
No. of rainy days		...	...	...	...	2	2	1	7	3	...
Dhárapuram		...	...	...	...	...	...	...	139	135	...
No. of rainy days		...	...	...	...	...	...	...	4	3	...
Udamalpet		...	...	...	...	...	...	10	200	230	...
No. of rainy days		...	...	...	...	...	...	1	1	3	...
Erode	1882.	...	...	...	...	25	...	...	277	16	...
No. of rainy days		...	...	...	...	1	...	...	3	2	...
Pollachi		...	...	...	...	...	...	60	70	185	...
No. of rainy days		...	...	...	...	...	...	1	2	4	...
Palladam		...	...	...	...	15	...	...	235	65	...
No. of rainy days		...	...	...	...	1	...	...	4	3	...
Satyanangalam		...	...	...	...	52	...	10	190	247	...
No. of rainy days		...	...	...	...	3	...	1	8	4	...
Bharani		144	...	...	...	70	95	39	267	430	...
No. of rainy days		4	...	...	...	1	1	3	4	5	...
Karur		65	...	...	...	...	75	07	185	730	...
No. of rainy days		2	...	...	...	...	1	1	4	6	...
Coimbatore	1883.	104	...	...	...	42	261	28	98	232	...
No. of rainy days		4	...	...	...	2	3	1	6	7	...
Kollegal		270	...	...	...	...	06	01	215	215	...
No. of rainy days		2	...	...	...	...	2	1	4	8	...
Dhárapuram		133	...	...	...	...	55	18	278	424	...
No. of rainy days		2	...	...	...	...	1	1	4	6	...
Udamalpet		55	...	...	...	84	110	...	240	212	...
No. of rainy days		1	...	...	...	1	1	...	2	6	...
Erode		60	...	...	...	50	60	27	222	285	...
No. of rainy days		2	...	...	...	1	1	2	4	7	...
Pollachi		45	...	...	...	58	122	55	...	275	...
No. of rainy days		1	...	...	...	1	3	1	...	6	...
Palladam	1884.	130	...	...	...	...	120	...	175	615	...
No. of rainy days		2	...	...	...	...	2	...	4	6	...
Satyanangalam		95	...	...	...	...	130	...	210	275	...
No. of rainy days		1	...	...	...	...	2	...	3	0	...
Bharani		...	...	...	...	84	...	18	20	98	437
No. of rainy days		...	...	...	...	1	...	1	3	1	6
Karur		...	...	...	...	...	...	...	20	283	...
No. of rainy days		...	...	...	...	...	...	...	1	5	...
Coimbatore		...	...	...	...	56	07	04	15	103	107
No. of rainy days		...	...	...	...	5	1	1	2	5	5
Kollegal		...	...	...	...	60	35	...	230	170	530
No. of rainy days		...	...	...	...	2	1	...	4	3	7
Dhárapuram		...	...	...	...	14	20	20	11	61	180
No. of rainy days		...	...	...	...	2	1	1	1	3	4
Udamalpet		...	...	...	...	...	42	50	108	215	35
No. of rainy days		...	...	...	...	...	1	1	2	3	3
Erode		...	...	...	...	30	08	...	08	100	602
No. of rainy days		...	...	...	...	1	1	...	4	1	7
Pollachi		...	...	...	...	15	10	130	40	150	100
No. of rainy days		...	...	...	...	1	1	1	1	2	3
Palladam		...	...	...	...	...	...	...	30	30	135
No. of rainy days		...	...	...	...	...	...	...	3	3	3
Satyanangalam		...	...	...	...	10	30	30	120	120	200
No. of rainy days		...	...	...	...	1	1	1	2	3	6

No. V-E.

Meteorology.

Station.	Latitude, North.	Longitude, East.	Elevation in feet above mean sea level.	Level determined.	How determined.	Authority for elevation.
Coimbatore	11° 1'	77° 0'	1347.654	Current of barometer.	From reef level at Coimbatore station.	Col. Wilkinson, R.E.

The observatory is at the Civil Dispensary at the eastern end of the native town and about 4 mile from the railway. The barometer (Fortin's mercurial) is placed in a room at the east end of the hospital facing north. The anemometer is fixed in the southern end of the thermometer shed at a height of 14 feet from the ground, and the shed is erected at a distance of about 36 feet east of the hospital.

No. V-F.

Average Monthly Mean Temperature of Madras, Salem, Coimbatore, &c.

Stations.	No. of Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Mean of Year.
Coimbatore	12	73.6	77.0	81.1	83.2	81.2	78.0	76.9	77.0	77.1	77.1	75.6	72.9	77.1
Madras	22	75.9	77.5	81.1	83.3	87.4	87.7	85.7	84.0	84.1	81.1	78.5	76.2	83.1
Salem	11-12	76.8	79.2	83.7	86.3	85.3	82.7	81.3	80.7	80.9	79.7	77.3	75.3	80.0
Tritchinopoly	11-12	75.6	78.6	83.1	87.1	87.7	86.3	85.1	83.8	82.8	80.0	78.0	75.8	82.1
Madras	12	77.1	79.2	82.7	85.7	85.7	80.0	84.4	83.6	82.8	80.0	78.0	77.2	81.0

No. V-G.

Average Monthly Mean Pressure of Caimbatore.

Station.	No. of Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Caimbatore. {	7	28.598	28.588	28.548	28.453	28.440	28.422	28.303	28.473	28.426	28.521	28.558	28.586	28.618
	11.12	28.595	28.578	28.541	28.481	28.442	28.440	28.450	28.467	28.463	28.568	28.557	28.586	28.611

No. V-H.

Monthly Mean of Pressure in 1881.

Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Caimbatore reduced to sea level value.	29.024	29.000	28.931	28.851	28.807	28.854	28.863	28.823	28.829	28.878	28.908	28.953	28.867
Do. actual	28.636	28.624	28.667	28.601	28.460	28.442	28.467	28.402	28.401	28.516	28.532	28.576	28.444

No. V.J.

Direction and Mean Movement of Winds in 1881.

	January	February	March	April	May	June	July	August	September	October	November	December
North ...	...	...	3	...	3	...	...	...	...	...	...	...
North-east	20	25	18	...	...	...	...	...	...	16	...	...
East ...	31	30	16	7	2	...	...	...	...	8	22	20
South-east	41	11	20	14	4	1	...	...	...	2	36	...
South ...	...	...	6	19	11	20	15	17	21	13	...	...
South-west	...	...	...	13	33	27	30	26	33	19	...	...
West ...	...	...	...	...	6	9	17	7	0	1	...	...
North-west	...	...	...	...	3	3	...	1	...	1	...	...
Calm ...	...	...	...	3	...	...	...	...	...	...	1	...
Variable	...	...	...	...	...	...	...	...	...	...	...	...
Resultant ... { Percentage ... { Direction	86 N. 83° E.	43 N. 78° E.	69 S. 85° E.	61 S. 18° E.	60 S. 57° W.	80 S. 38° W.	85 S. 47° W.	60 S. 37° W.	89 S. 33° W.	26 S. 21° W.	89 S. 71° E.	85 N. 70° E.
Mean diurnal velocity of wind in miles ...	72.9	62.3	69.4	63.8	112.4	148.8	143.7	174.3	166.1	80.0	40.7	64.0
Average resultant, { Percentage 6 years. { Direction	74 N. 77° E.	70 N. 82° E.	29 S. 78° E.	33 S. 31° E.	47 S. 13° W.	81 S. 41° W.	63 S. 31° W.	83 S. 23° W.	79 S. 32° W.	91 S.	44 N. 74° E.	76 S. 67° E.
Average diurnal velocity of wind in miles; 12 years	60.2	65.0	84.9	91.0	135.9	168.8	207.9	187.6	166.1	88.3	66.1	77.2

No. V-K.

Average Monthly and Annual Rainfall of Karur and Coimbatore, &c.

Stations.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Karur ...	Average of 18-19	0.29	0.15	0.30	2.06	3.03	1.45	1.48	3.11	3.71	5.00	2.88	1.34	26.14
	1881	...	...	...	...	3.97	...	...	3.99	0.19	0.93	2.79	1.88	19.74
	18-21	0.23	0.15	0.02	1.98	3.16	1.78	1.26	1.13	1.23	5.60	3.26	0.86	21.48
Coimbatore	1881	0.08	...	0.13	...	5.00	0.37	0.62	0.57	0.19	7.16	0.68	0.64	22.64
Salem	21-22	0.36	0.00	0.85	2.17	4.34	3.15	3.39	5.29	6.15	6.04	2.26	0.62	36.08
Tiruchinopoly.	28-30	1.12	0.59	0.79	2.11	3.69	1.22	2.26	4.46	3.67	7.98	5.02	3.02	27.82
Madurai	21	0.84	0.42	0.70	2.35	2.50	1.59	1.63	4.76	4.54	8.84	5.07	2.05	35.29

No. V-L.

Temperatures of Nocturnal Radiation in 1881.

Month.	Degrees.	Maximum.		Minimum.		Difference Shade and Radiation.		
		Day.	Degrees.	Day.	Degrees.	Mean.	Maximum.	Minimum.
January	56.8	12th	68.3	29th	48.3	6.5	10.3	2.3
February	56.7	14th	64.1	7th	47.1	6.9	12.2	...
March	63.8	26th	72.9	8th	50.5	5.4	11.3	0.2
April	70.0	11th	74.3	3rd	60.3	4.6	9.5	2.2
May	70.6	23rd	75.7	27th	65.5	3.0	4.8	...
June	68.2	15th	71.4	25th	66.1	2.9	5.6	0.5
July	68.6	2nd and 7th	70.5	26th	63.4	3.2	7.0	0.5
August	69.3	1st and 27th	71.6	13th	66.4	1.8	3.9	0.2
September	69.4	9th	71.8	25th	65.9	2.0	3.8	0.4
October	67.1	14th	71.4	24th	60.6	3.8	6.8	...
November	67.1	3rd, 19th and 31st	70.5	20th	58.5	2.9	7.1	...
December	63.2	12th	68.3	26th	49.6	4.6	8.1	1.0
Year	65.9	...	75.7	...	47.1	4.0	12.2	...
			70.9		59.1	...	7.3	0.6

No. V-M.

Mean and Extreme Air Temperature in 1881.

Month.	Mean.	10 Hours.	15 Hours.	22 Hours.	Mean of Maxima.	Mean Daily Range.	Mean of Minima.	Highest Maxi- mum		Absolute Range.	Lowest Minimum	
								Day.	De- gree.		Day.	De- gree.
January	72.0	74.8	83.0	71.8	84.2	41.0	63.2	11th ...	38.7	32.4	28th ...	56.3
February	70.2	78.1	89.9	75.5	91.9	28.2	63.6	20th ...	39.3	41.9	7th ...	57.4
March	80.8	82.5	93.1	79.5	96.5	27.3	69.2	14th ...	95.2	35.4	3rd ...	61.8
April	84.9	87.7	96.9	81.7	100.4	25.8	74.9	29th and 27th.	102.5	30.7	3rd and 19th.	71.8
May	81.8	85.2	91.4	77.9	95.8	22.1	73.7	1st ...	100.4	39.4	25th ...	68.0
June	78.9	83.1	85.6	76.0	92.8	20.8	71.8	4th ...	96.5	29.0	10th ...	69.6
July	78.4	81.9	84.9	74.8	91.3	19.2	71.8	22nd ...	96.2	26.1	19th ...	69.1
August	77.6	80.9	83.6	75.0	89.8	18.6	71.2	19th ...	94.1	25.1	8th ...	69.0
September	78.1	81.4	84.6	75.0	91.2	19.8	71.4	3rd ...	94.2	25.2	14th ...	69.0
October	78.3	81.1	83.8	79.2	90.6	19.8	70.8	6th ...	94.8	28.0	24th ...	66.8
November	75.6	77.7	81.5	73.9	85.1	15.1	70.0	10th and 18th.	89.6	25.1	13th and 20th.	64.6
December	74.1	79.3	81.4	73.4	84.2	17.4	66.8	10th ...	89.3	31.4	26th ...	57.9
Year	78.1	80.9	89.7	79.0	91.1	21.2	69.8	—	102.5	46.2	...	56.3

No. V-N.

Observed Extremes of Temperature in Shade at Coimbatore during the Ten Years 1869 to 1878.

Month.	1869.		1870.		1871.		1872.		1873.	
	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
January	87.7	64.5	87.4	63.8	82.6	62.7	80.9	63.3	87.7	61.2
February	88.7	67.2	91.8	62.8	92.1	62.9	91.0	65.8	89.7	66.3
March	98.1	71.0	95.4	69.2	95.3	66.6	96.6	67.6	90.1	68.2
April	98.7	72.6	98.2	72.3	97.4	69.7	96.6	70.5	96.8	70.0
May	96.7	75.3	96.1	72.0	93.6	69.3	94.1	73.0	95.7	73.4
June	89.9	72.5	90.8	69.7	89.8	64.7	89.0	71.3	90.1	70.6
July	89.8	71.6	86.8	64.8	88.2	65.9	87.7	70.4	88.8	70.0
August	89.3	70.9	88.0	68.2	91.0	66.7	88.8	70.1	89.9	70.6
September	88.7	70.5	87.7	67.8	90.4	68.4	88.5	70.3	90.5	69.2
October	90.3	70.0	87.2	67.6	89.6	70.5	89.0	69.1	87.6	69.2
November	82.0	68.4	80.4	66.1	84.5	68.4	84.7	69.0	87.1	67.8
December	86.0	66.9	84.8	62.4	85.1	65.8	84.5	65.5	87.3	64.2
Average	91.0	70.2	90.1	67.2	90.0	66.7	89.8	69.0	90.6	68.4

Month	1874.		1875.		1876.		1877.		1878.	
	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
January	87.2	61.2	88.7	61.3	89.7	60.1	91.0	62.4	88.8	67.8
February	91.7	65.7	92.2	63.2	93.3	61.1	94.3	67.0	95.1	65.8
March	96.5	68.9	98.0	68.8	99.6	70.5	98.8	69.1	99.2	70.4
April	99.5	72.1	97.6	71.8	100.8	72.9	99.4	74.2	99.4	74.6
May	89.4	70.3	95.6	72.0	95.3	71.5	98.4	74.2	97.8	74.8
June	87.3	70.3	89.8	70.7	95.0	70.9	90.5	72.0	91.3	72.7
July	87.0	69.5	88.5	68.6	92.0	69.5	92.2	71.5	91.2	72.6
August	88.7	69.7	89.3	68.6	89.7	68.0	91.0	71.0	89.5	71.4
September	87.4	69.8	91.3	69.7	92.4	68.0	91.6	71.5	90.0	72.4
October	89.2	69.5	89.2	68.2	94.1	69.0	89.3	70.8	91.0	72.7
November	88.0	67.6	87.2	67.4	92.3	66.0	87.0	69.5	88.7	70.7
December	86.3	64.5	87.0	62.1	88.6	61.5	85.2	68.1	88.8	68.3
Average	89.9	68.2	91.2	67.8	93.6	67.5	92.3	70.1	92.6	71.2

No. V.O.

Mean Temperature of Coimbatore in Shade during the Years 1869 to 1878.

Month.	1869.		1870.		1871.		1872.		1873.		1874.	
	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
January ...	84.3	65.2	82.5	60.1	80.9	61.3	80.1	61.7	80.1	61.2	81.6	59.0
February ...	87.9	69.6	84.2	60.8	86.3	69.9	85.3	61.1	85.7	64.3	84.1	65.4
March ...	90.4	68.3	87.2	63.1	87.6	69.3	89.5	62.3	88.2	65.8	88.4	61.5
April ...	91.4	70.6	89.3	68.6	89.9	70.7	88.4	69.6	87.3	68.7	90.4	69.8
May ...	89.6	72.2	89.5	69.2	86.2	71.5	87.9	70.3	88.8	71.2	84.3	61.6
June ...	86.4	69.1	87.6	68.6	85.3	67.6	86.1	68.6	84.5	68.3	82.4	69.0
July ...	83.9	69.7	82.1	67.8	82.9	68.2	83.3	69.7	82.2	69.1	81.8	68.7
August ...	81.7	68.8	82.4	67.4	81.7	69.5	82.5	69.3	82.8	69.4	82.1	69.4
September ...	82.2	68.4	82.3	69.2	82.1	68.6	80.7	69.1	82.7	69.1	81.0	69.0
October ...	82.7	69.0	82.2	67.2	82.7	67.1	83.4	69.8	80.8	68.4	83.9	70.5
November ...	79.3	65.5	80.5	68.7	82.0	66.0	80.8	63.9	82.7	64.4	81.5	68.1
December ...	81.3	63.4	79.3	60.5	80.4	64.4	81.7	60.5	82.8	61.2	80.8	63.0

Month.	1875.		1876.		1877.		1878.		Average of 10 Years.	
	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
January ...	81.4	67.4	80.9	60.4	81.2	61.2	82.6	62.3	81.6	61.7
February ...	83.5	61.8	85.0	60.4	85.0	62.2	85.4	65.0	85.0	62.0
March ...	88.3	63.1	89.0	70.0	86.9	62.6	89.8	66.7	88.6	64.6
April ...	90.0	70.4	91.2	72.7	90.1	71.2	87.3	70.0	89.6	70.2
May ...	87.5	73.1	87.2	72.2	90.2	71.4	86.8	70.5	87.7	70.2
June ...	85.5	69.7	88.2	70.2	85.2	70.4	84.3	68.2	85.4	69.0
July ...	83.0	69.7	83.7	68.7	84.7	69.1	81.4	68.2	82.9	68.9
August ...	83.1	69.3	80.8	69.7	84.0	69.8	80.2	68.1	82.1	69.1
September ...	83.4	70.1	81.0	69.8	83.7	70.5	80.2	68.8	81.0	69.0
October ...	84.9	69.7	83.5	68.7	82.7	69.5	81.5	68.4	82.9	69.0
November ...	82.0	66.6	83.2	64.3	80.8	67.1	80.3	66.5	81.4	66.6
December ...	80.0	61.7	79.2	61.0	80.5	66.4	79.4	64.0	80.6	62.7

No. V-P.

Average Monthly Mean Humidity of Coimbatore, &c.

Station.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average of Year.
Coimbatore.	6-7	57	52	54	58	65	69	70	72	69	72	71	66	64
Madras.	7	70	69	71	71	66	60	63	68	70	75	78	75	70
Madurai.	5-6	65	62	59	58	61	59	56	60	62	71	79	72	69

No. V-Q.

Average proportion of Cloudy Sky in each Month, deduced from the Registers of past Years.

Station.	Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Coimbatore.	12	3-61	2-70	3-21	4-73	5-65	7-00	6-85	6-40	6-10	6-45	6-20	4-88	5-24
	1881	3-11	1-07	2-92	2-48	4-37	5-28	4-63	5-29	4-91	4-51	6-11	4-80	4-12

No. V-R.

Season Reports.

- Fault 1210 (A.D. 1799-1800).—Very favourable in northern division, unfavourable in the southern.
- " 1211—Information not available.
- " 1212—Entire want of rain.
- " 1213—Information not available.
- " 1214—A distressing failure of rain; a few showers only fell about September. The north-east monsoon passed by entirely.
- " 1215—Failure of latter rains; early (Kálavádi) rains very favourable. Bad season, fourth of a series of most unfavourable seasons.
- " 1216—Severely bad season. Early rains good generally, but in parts unfavourable leading to relinquishments; latter rains failed, except partially. General outturn inferior, in some parts total failure, but no actual famine.
- " 1217—Information not available.
- " 1218—An adverse season; an epidemic which carried off above half the cultivating inhabitants.
- " 1219—Generally very favourable season, leading to over-abundance of grain and low prices, there being no market.
- " 1220—A deficiency of water and sudden fall in the price of grain.
- " 1221—Wet crops a failure except under channels, dry land produced scarcely anything, and garden lands suffered greatly.
- " 1222—No rain in spring (Chittiri) or summer (Ádi, &c.), and great mortality among cattle.
- " 1223—On 10th September hopes of favourable monsoon, but from that date to end of fast no rain, only a few instances of a shower here and there; not a single tank filled. Dry land villages quite bare, no grass for miles. Cattle dying for want of forage. Great fires from February onwards.
- " 1224—Information not available.
- " 1225—Unusually favourable season.
- " 1226—Very unfavourable season; in May and June fair rains, then none till 20th September (1227), afterwards continuous and heavy rains; hence pooriness of crops as rain was too late, and too continuous.
- " 1227—A favourable season.
- " 1228—Extremely unfavourable. Cholera.
- " 1229—Information not available.
- " 1230—Failure in the periodical rains of the north-east monsoon.
- " 1231—Failure of the north-east monsoon.
- " 1232—Information not available.
- " 1233—Unpropitious season involving remission. North-east monsoon totally failed, and dry crops were all lost, and all tank cultivation; only gardens and river-fed lands gave crops.
- " 1234—Season unfavourable; failure of early rains.

- Faali 1235—The early part of the season was highly favourable; most of the wet lands irrigated from rivers yielded more than an average crop, but by the failure of the latter rains it was less favourable to those irrigated from tanks, many of which went dry.
- " 1236—Information not available.
- " 1237—One of the most trying seasons known for many years, except in Bhavāni, Perasdūrei, Erode, Kārūr and Pollāchi; north-east monsoon entirely failed in the latter rains, and the early rains were only partial, while in Kāngayam, Dhārāpūram, Udamalpet, Palladam, and Coimbatore there was scarcely a shower of consequence during the season; dry crops in that part almost entirely failed.
- " 1238—One of the most trying seasons ever known; failure of latter rains of south-west monsoon, and those of north-east in ten out of fifteen taluks.
- " 1239—Very unfavourable season as has been the case for four years.
- " 1240—Another bad season, worse than known for many years. Nōyel hardly known to fail, has been almost dry throughout the year; hence complete wet land failure in Palladam and Coimbatore.
- " 1241—Failure of both monsoons, following two years of severe drought, affected cultivation beyond precedent.
- " 1242—Greater distress than ever known; in June and July fair south-west monsoon in Pollāchi, partial in other neighbouring taluks; no rain in August, September and October; north-east failed entirely in November and December, hence wells, never known to fail, went dry; cotton failed everywhere. But for wet lands and gardens, and proximity to Malabar, ryots would have been greatly injured.
- " 1243—Another bad season. The south-west monsoon gave early crops in the four taluks within its influence (Pollāchi, Palladam, Chakragiri, Coimbatore) but not in other taluks, which did not get any rain in August and September to sow kambu; hence large areas of waste. Heavy rains however in October, November and December throughout the district.
- " 1244—Season fairly favourable up to October, but the south-west monsoon was only good in the northern division, and not in the southern where only a few showers fell. The north-east monsoon totally failed, rivers dried up, a large portion of crops under Amarāvati and Nōyel were lost and large areas of ploughed lands were left unsown.
- " 1245—Season favourable for early crops; frequent and regular showers fell during first six months of the faali; December to April no rain, hence some injury to wet cultivation.
- " 1246—No more disastrous season within the memory of man. No rain fell for the usual early dry crops; rain fell subsequently for ploughing and sowing, but total drought in September

- and October, hence great damage. November rains partial and too late, after that *nil*. General failure of wells.
- Fasli 1247—On the whole not a favourable season; April and June crop not half average in Pollachi and Coimbatore; elsewhere one-fourth to half. Regular dry crops moderate. North-east monsoon moderate, but deficiency in December.
- " 1248—Season generally unfavourable, but better than the last year. South-west monsoon partial, ploughed lands for early crop left unsown. Of the later crops none turned out well but those sown in July. North-east generally deficient, but less so in the southern taluks; elsewhere gram and cotton suffered much.
- " 1249—Season irregular and variable; rains partial in locality and quantity; many tanks not filled at all.
- " 1250—More favourable than the previous fasli. A failure of the rains in November was injurious to the standing crops. On the whole the season may be considered one of rather more than ordinary advantage.
- " 1251—The supply of rain was generally seasonable and sufficient; there was consequently a considerable increase of cultivation.
- " 1252—Season very favourable; it commenced with advantage to the early crops, but failing in the months of July and August their produce was short.
- " 1253—The rain in the early part of the season was abundant; the latter rains were fully sufficient for an increased extent of cultivation in the wet lands dependent on tanks, while the harvest of the dry grains was successful.
- " 1254—Ordinary season; from April to June it continued favourable. In July and August there was a considerable failure of rain. In September after a cessation of rain for two months there were abundant showers, but at the usual period of the setting in of the north-east monsoon they failed.
- " 1255—Unfavourable season; partial rains in the months of April and May; in the three following months they entirely failed except in Pollachi and Coimbatore. Scanty falls in September and November inclusive, and then the monsoon failed.
- " 1256—Singularity adverse season; it was seriously unfavourable to the dry grain and garden lands throughout the year.
- " 1257—Favourable; the south-west and north-east monsoons were of ordinary character.
- " 1258—The season for dry and garden lands was favourable, and the two monsoons having been of an ordinary character in both the cultivation was successful.
- " 1259—Not very favourable, both monsoons having been scanty even in those parts of the district most exposed to their influence; hence insufficiency in garden and dry lands.

- Fasli 1260—The season was not favourable, the rains having been deficient in quantity and season, particularly for the dry crops. The tanks in some parts were scantily supplied.
- " 1261—Far from favourable. Both the monsoons were scanty and the season was indifferent for all cultivation. The losses would have been greater but for a general fall of rain in November.
- " 1262—Good; an increase in all kinds of cultivation.
- " 1263—Rains were partial and not sufficient to ensure a full crop. In October they were heavy but not so in the succeeding months; hence the crops were far below the average; and in a majority of cases hardly sufficient for the maintenance of ryots and labourers.
- " 1264—The season was far from favourable; the rains were light and partial during the whole year except in the months of October and November. Dry and garden cultivation were less than in Fasli 1263, both in extent and produce. The outturn in some places was as low as one-half or even one-third of an average crop. Cattle suffered greatly; the want of pasture was general and distressing. Numbers of cattle perished.
- " 1265—Not a favourable season. Rain was slight and partial throughout the year, and in consequence there was a falling off in the extent of cultivation and revenue. The principal rivers—Canvery, Bhávaní, Náyil, &c.—did not receive their usual freshes.
- " 1266—This was the fourth unfavourable and dry season. Rain was very partial during the year, the average fall being only 16 inches. Cattle died of murrain and want of forage.
- " 1267—Very bad season; 19 inches average. Want of forage; Perandurei (taluk), Cheyúr, Palladam and Udamalpet worst off for rain. In October only one heavy rain; no subsequent rains.
- " 1268—Season less unfavourable than the last; ordinary rains in April and May, then drought; partial showers in September; heavy rains in October and November. Price of working cattle now double that of four years before.
- " 1269—Season far from unfavourable; rains not wanting from April to November, both inclusive; slight showers in December, February and March, none in January. Cultivation extended and outturn average. Abundant freshes; tanks generally full.
- " 1270—Season not favourable; good rains in May, but very scanty; south-west monsoon in June, July and August, and no rain in September. October rain partial and chiefly in northern part, November entire failure, and December very little and partial, January and February quite dry; hence much dry failure, seed not being recovered in many cases; much waste also. Many complaints and much distress. Prices

of cattle now double that of some years ago. Udamalpet illustrates the uselessness of annual figures; the rainfall was 16·1; of this 8·60 fell almost uselessly in April and May; in June '30, July '0, August '70, September '0, October '20, November '0, December '4.

Fasti 1271—Season still worse than the last. Average rainfall 18·6 excluding Nilgiris. Drought in all taluks especially southern division (except Karur), Coimbatore and Perundurai. In Pollachi many wells went dry; in Udamalpet wells so failed that 15 per cent. remission was given on garden land besides 15 per cent. on dry. South-west monsoon very light, only about 2 inches; north-east almost total failure, full remission for all pottah waste and 10 per cent. on all pottah dry. The Board say "throughout the province of Coimbatore a universal drought prevailed, even the wells went dry," &c. Government gave Rupees 21,052 for expenditure on roads in consequence of the distress.

- " 1272—On the whole favourable, early rains light; hence kár cultivation largely failed; cholam poor; south-west also deficient, but north-east abundant in September, October and November; crops average; wet cultivation good. Rainfall 36·9, of which 23·2 was in the north-east monsoon (October to March). Former bad seasons and want of pasture up to September produced severe murrain.
- " 1273—Season on the whole favourable, April and May rains abundant; south-west monsoon not so copious as usual. August and September rains deficient, but October rains beautiful.
- " 1274—Not so favourable. Rainfall 27·83. Early rains in April and May seasonable and good. South-west monsoon deficient; north-east tolerably good, but scanty and partial in November and December when much wanted; hence later dry crops much below average.
- " 1275—Season far from favourable. Kár rains good. South-west monsoon deficient; north-east indifferent; no good rain from May to October. Dry crops much below average; garden crops pretty good. Wet crops good under Canvary and Bhávani; under Nôzil and Amarivati a good deal failed, and much suffered. Many rain-fed tanks imperfectly supplied.
- " 1276—Season very trying, south-west a failure; hence high prices, much suffering, scanty forage and no pasturage; wells failed, and even drinking water was deficient. Eastern taluks and Kollegal especially suffered; many labourers thrown out of work; much distress which was alleviated by Government relief. North-east monsoon relieved apprehension by good rains in October, November and December.

- Fasli 1277—Season very unfavourable; almost famine; April and May rains good; subsequent rainfall scanty and partial; in October good showers, but failure in November; Palladam, Coimbatore, Dhārāpuram and Perandurai suffered most; dry crops half to next to nothing. Government relief works were beneficial. Wet cultivation good, except under Nōyil and most rain-fed tanks.
- " 1278—Season not favourable, but not very unpropitious. Rainfall, though only 20·70, was seasonable.
- " 1279—Season on the whole favourable; early rains deficient, more especially in southern portions of Karūr and Dhārāpuram. Subsequent rains, especially north-east, very good.
- " 1280—Early rains partial and scanty. South-west and north-east tolerably good though deficient at end of year. Early crops not successful, later crops average.
- " 1281—Information not obtained.
- " 1282—Rainfall, though fair, was, like the last year, unseasonable, and dry crops suffered from want of water.
- " 1283—Rainfall below average, dry crops much affected. In subdivision withered to half in Dhārāpuram; quarter to three-fourths in Karūr and Udampalpet. Wet cultivation under river channels satisfactory, but not under rain-fed tanks.
- " 1284—Dry crops and rain-fed tanks suffered from deficiency of rain. On the whole an average year.
- " 1285—Rainfall deficient and crops suffered considerably.
- " 1286—Rainfall 18·09. South-west monsoon, though 14·39, very partial; Nōyil had only one fresh; rain-fed tanks no water, Amarāvati scanty; north-east monsoon signal failure. In October 2·09 against 6 inches average; November 0·88 against 4. Wells failed; much wet and dry waste and withered. Famine year.
- " 1287—Early rains scanty and partial; many wells failed, even drinking water became scarce. Height of famine, August and September 1877. Heavy rains thereafter seriously damaged dry crops.
- " 1288—Not altogether favourable; kār rains partial and late. South-west moderate; north-east partly a failure owing to its ceasing too soon. The December rains were very slight.
- " 1289—Season very unfavourable; early rains insufficient; cultivation considerably short of average of five normal years; north-east monsoon largely failed and dry crops suffered much by want of rain, especially Erode, Dhārāpuram, part of Palladam, Udampalpet and Satyamangalam; outturns in other parts poor.
- " 1290—Season far better than 1289. Rainfall 33·10.

No. VI.

Statement showing the Prices of Grain, &c., for a series of Ten Years, per *Galves* of 3,200 *Madras Measures*.

Year.	Year.	Rice, first sort.	Rice, second sort.	Paddy, first sort.	Paddy, second sort.	Chickpea.	Kantha.	Bag.	Vengra.	Harpegram.	Uradha.	Wheat.	Salt.	(Grass)-oil Seed.	(Samp)-oil Seed.	Cowry Rupee per Candi (500 lb.)	Cotton with Seed (Pacuti) (500 lb.)
1884 ...	1874-75	430	370	201	179	293	184	177	...	250	419	409	388	375	294	34	26
1885 ...	1875-76	423	375	194	175	223	175	176	...	210	349	406	377	380	287	23	27
1886 ...	1876-77	388	500	272	241	340	272	284	...	340	455	578	377	609	404	35	31
1887 ...	1877-78	704	404	340	291	506	348	413	...	369	502	782	403	757	473	54	34
1888 ...	1878-79	602	528	276	245	347	250	277	...	247	582	853	423	689	301	57	28
1889 ...	1879-80	475	452	215	188	262	198	208	...	241	623	692	406	466	227	46	27
1890 ...	1880-81	358	340	174	153	205	155	155	...	184	440	483	410	369	251	44	26
1891 ...	1881-82	378	232	170	140	155	116	134	...	129	305	379	459	479	270	38	25
1892 ...	1882-83	340	313	152	144	153	117	120	...	146	289	401	385	366	241	55	24
1893 ...	1883-84	352	309	148	123	161	124	125	...	137	293	350	349	483	259	54	27

Famine.

No. VI-A.

Prices of Staple Grains in Imperial Seers (3 lb.) per Rupee.

—	Second-sort Rice.	Chulam.	Ragi.	Kambu.
Average of nine years 1870-79, excluding 1877	12.8	21.8	26.2	27.76
1880	13.8	20.9	25.4	26.6
1881	15.3	20.2	26.1	23.8
1882	16.2	20.5	26.1	23.5

No. VI-B.

Comparative Statement of Average Prices of Grain from 1799.

Grains.	1799-1810.	1811-1823.	1824-1835.	1836-1842.	1843-1850.	1851-1860.	1861-1870.	1871-1880.	1881-1882.	1883-1883.
Rice, first sort	223	245	245	244	215	341	515	448	375	366
Do. second sort	198	207	218	218	194	299	456	395	332	313
Paddy, first sort	93	103	105	111	97	147	241	207	170	162
Do. second sort	80	88	87	94	86	133	217	184	149	144
Chulam	91	102	115	119	99	169	269	226	155	153
Kambu	82	89	87	98	83	132	210	178	116	117
Ragi	70	94	100	105	85	140	225	174	124	126
Uttunthu	164	203	208	198	194	280	500	430	305	269
Wheat	338	100	395	317	250	493	635	623	379	401
Horse-grass	89	120	133	134	112	166	265	227	129	143
Salt				227	239	205	339	432	453	385

No. VII.

Statement showing Particulars of Holding, &c., for a series of Years.

Pacel.	Cultivable extent.	Area occupied.						Deduct Remissions.	Remainder.
		Dry.		Wet.		2nd Crop and Chopra for Water.	Total Assessment.		
		Extent.	Assessment.	Extent.	Assessment.				
1	2	3	4	5	6	7	8	9	10
	acs.	acs.	Rs.	acs.	Rs.	Rs.	Rs.	Rs.	Rs.
1283	2,195,380	10,54,000	90,140	0,58,422	10,226	26,23,939	98,797	25,24,542
1284	2,208,432	10,64,971	90,294	0,59,149	15,719	26,39,839	1,00,859	25,38,980
1285	2,217,327	10,72,787	89,708	0,68,340	16,948	26,48,076	1,59,612	24,88,463
1286	2,224,478	10,78,668	89,812	0,58,901	15,608	26,53,177	2,99,021	22,53,256
1287	2,226,799	10,79,709	89,981	0,59,732	16,876	26,59,317	1,56,260	25,01,057
1288	2,223,348	10,00,898	88,329	0,48,454	17,969	26,76,308	91,336	26,81,972
1289	2,249,981	20,72,268	84,645	0,35,517	26,381	27,34,161	3,07,180	23,67,681
1290	2,260,048	20,81,170	85,242	0,36,320	23,384	28,00,874	1,40,284	25,00,590
1291	2,167,259	20,12,984	85,794	0,36,434	24,891	26,74,806	2,28,005	23,86,484
1292	2,174,306	20,19,000	85,754	0,36,262	27,592	26,82,044	1,13,517	25,68,527
Average.	—	2,200,783	10,00,623	87,971	0,48,758	19,858	26,67,933	1,65,776	24,75,723

Pacel.	Add. Miscellaneous Income.	Total Ryotwary De- mand.	Revenue from Portu- nally settled Rations.	Jeel or Shetrum Vil- lage.	Total Land Revenue Demand.	Arrears of Previous Years.	Total Demand of the Year.	Gross Collections.	Balance at the end of the Year.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1283 ...	52,226	25,70,768	27,691	3,418	26,07,877	1,21,880	27,29,757	25,33,353	1,96,404
1284 ...	51,897	25,90,877	27,691	3,418	26,21,986	1,94,258	28,16,244	25,52,097	2,64,147
1285 ...	53,246	25,47,708	27,691	3,418	25,78,817	61,474	28,40,291	25,80,812	2,59,479
1286 ...	49,167	23,02,423	27,691	3,418	23,33,532	2,53,479	25,87,011	12,40,068	13,46,943
1287 ...	54,725	26,56,792	27,691	3,418	26,86,901	13,41,426	39,28,327	18,75,124	20,53,193
1288 ...	60,086	23,42,658	27,691	3,418	23,73,767	30,63,193	47,26,960	31,02,783	16,24,177
1289 ...	59,530	24,21,117	27,691	3,418	24,52,226	13,18,412	37,70,638	20,32,608	17,38,030
1290 ...	72,550	26,23,140	27,691	3,418	26,54,249	17,25,876	33,80,124	31,70,369	14,19,755
1291 ...	76,374	24,62,838	27,691	3,418	24,93,947	12,61,296	36,55,242	22,87,462	14,07,780
1292 ...	1,06,699	26,09,016	27,691	3,418	27,00,125	12,67,774	39,67,899	31,39,604	6,28,295
Average.	63,610	25,30,234	27,691	3,418	25,70,342	9,54,907	35,45,249	24,82,029	10,63,199

No. VII-A.

Statement showing by Taluks the Crops cultivated in Fash 1291.

Districts.	Area in Acres under each Crop.									
	Paddy.	Cholam.	Kambu.	Bagh.	Varagu.	Tamil.	Sand or Millet.	Sugar-cane.	Cotton.	Unusually Seed.
Guntabaturu ...	6,559	65,921	31,979	33,074	959	12,232	19,471	1,314	19,928	1,000
Bharani ...	334	2,887	75,230	21,004	31	90	4,060	30	1,055	108
Dharsapuram ...	6,251	121,264	94,393	12,286	139	681	909	312	44,812	18,672
Erode ...	16,278	45,670	119,265	2,272	38	296	1,272	50	64,731	738
Karur ...	12,524	18,174	157,141	11,690	119	288	778	135	22,046	4,681
Kollegal ...	9,768	1,478	15	53,518	98	20	133	322	109	245
Palladam ...	615	107,553	52,667	22,837	541	5,612	6,673	649	33,313	1,733
Pallachi ...	5,059	121,322	55,013	8,901	1,846	3,094	11,793	399	5,799	2,760
Satyamangalam ...	17,161	16,690	98,709	22,785	1	564	1,718	44	3,117	853
Udumalpet ...	13,015	61,835	6,014	9,964	1,979	6,287	30,116	797	35,145	452
District Total ...	93,563	662,984	690,439	197,731	6,754	29,154	66,923	3,890	230,955	30,307

Districts.	Area in Acres under each Crop—(Continued).									
	Lamp-oil Seed.	Horse-gum.	Tobacco	Chillies.	Plantains	Turneps.	Oceanaut.	Jamunp or Suan Hemp.	Wheat	Total Area Cultivated.
Guntabaturu ...	189	50,420	1,559	1,428	365	2	1,768	7	2,157	259,494
Bharani ...	680	10,582	1,382	203	27	34	4	35	...	118,896
Dharsapuram ...	4,673	22,679	4,529	186	50	...	177	1	...	335,683
Erode ...	471	7,364	230	708	96	637	491	12	...	285,523
Karur ...	780	6,006	2,183	585	1,120	177	243	25	...	243,848
Kollegal ...	1,816	2,448	129	487	7	...	175	...	3	74,683
Palladam ...	2,714	30,311	1,854	567	244	2	139	183	470	276,549
Pallachi ...	6,169	16,622	4,972	4,359	315	...	319	...	...	257,782
Satyamangalam ...	1,145	2,696	465	197	242	22	35	29	...	168,042
Udumalpet ...	1,324	20,703	2,600	522	35	...	91	7	3	183,057
District Total ...	20,021	170,403	19,810	9,252	2,403	374	3,439	299	2,642	1,208,547

No. VII-B.

Statement showing the Area under actual Cultivation for a series of Years.

Area in Acres under each Crop											
	Paddy.	Custards.	Wheat.	Ragi.	Vernam.	Kambra.	Therai.	Sisal or Miller.	Sugarcane.	Cotton.	Gingelly, Hemp, oil Seeds.
Average of Paddy 1253 and 1264 ..	ACRES. 60,464	ACRES. 297,495	ACRES. 772	ACRES. 135,523	ACRES. 18,344	ACRES. 762,075	ACRES. 6,046	ACRES. 45,550	ACRES. 1,346	ACRES. 151,464	ACRES. 7,240
1261 ..	54,720	297,495	2,700	296,468	18,344	817,440	41,361	100,010	2,420	185,468	22,242
1260 ..	81,990	297,495	2,108	296,468	7,960	726,414	30,910	100,010	3,000	200,420	21,000
1261 ..	80,002	297,495	2,842	296,468	4,781	600,440	20,154	100,010	3,800	200,420	21,000
1260 ..	97,824	297,495	3,110	296,468	4,392	610,135	32,715	81,940	4,055	221,015	20,154
Area in Acres under each Crop (Continued).											
	Burnt grain.	Other Pulses.	Tobacco.	Chillies.	Plantains.	Turnip, rice.	Cocoanut.	Groundnut.	Jambrin (Bam.)	Other Products.	Total Area of Groups.
Average of Paddy 1253 and 1264 ..	ACRES. 13,351	ACRES. 23,278	ACRES. 11,065	ACRES. 12,850	ACRES. 4,243	ACRES. 420	ACRES. 5,500	ACRES. 117	ACRES. 1,018	ACRES. 15,904	ACRES. 2,656,959
1261 ..	150,025	101,335	20,665	16,000	3,323	405	3,600	270	601	14,853	2,950,995
1260 ..	170,444	75,515	20,387	16,000	2,403	372	3,439	264	599	14,072	2,905,517
1261 ..	170,403	43,363	10,810	9,252	2,725	3,073	2,629	264	101	11,770	2,809,103
1260 ..	210,237	46,547	17,011	13,442	2,725	3,073	2,629	264	101	11,770	2,809,103

No. VII-C.

Assam Land, Government and Inam, for Year 1901.

Taluka.	Class.	Occupied.								Unoccupied.		Inam.	
	Wet.	Dry.	Total.	Cultivated.		Fallow.		Total.		Wet.	Dry.	Wet.	Dry.
Bharat	1,440	227,070	228,510	741	90,958	500	11,061	1,247	111,519	134	100,747	50	14,804
Cambatore	15,304	941,823	957,127	11,230	218,840	1,317	23,500	15,043	242,400	229	75,220	2,329	20,203
Dakshinpur	9,218	470,990	480,208	7,102	232,239	16	126,171	7,118	390,410	90	20,890	1,084	78,084
Ende	10,071	332,845	342,916	8,403	227,427	430	30,928	8,833	258,365	327	45,401	191	29,019
Karai	10,180	409,722	419,902	12,875	185,810	1,235	65,613	14,110	201,323	187	6,406	1,283	52,335
Kollegat	7,518	338,403	345,921	5,710	61,007	140	5,563	5,850	67,000	299	255,524	1,307	10,217
Palladam	4,543	420,355	424,898	2,944	238,790	929	96,510	3,873	335,406	210	40,011	400	44,038
Pallahat	6,113	216,750	222,863	5,415	175,123	376	26,211	5,791	201,334	2	1,045	325	14,371
Satyamsangalam.	16,895	455,384	472,279	10,942	127,736	680	13,509	17,528	160,345	684	285,421	683	18,078
Udamalpet	10,427	127,837	138,264	8,325	127,665	380	30,033	8,011	103,508	306	15,519	1,150	18,779
Total	98,803	3,334,250	3,433,053	70,753	1,724,495	6,011	442,774	35,794	2,167,359	2,773	855,213	10,335	311,728

No. VII-D.

Area actually under Cultivation, by Quinquennial Averages, for Government Lands only.

Period.	Dry.		Garden.		Wet.		Total.	
	Acrea.	Assess- ment.	Acrea.	Assess- ment.	Acrea.	Assess- ment.	Acrea.	Assess- ment.
		Rs.		Rs.		Rs.		Rs.
1230-34 (1820-25).	1,109,700	10,30,400	143,788	5,52,817	69,788	4,59,265	1,313,266	20,75,101
1240-44 (1830-35).	1,069,900	9,93,585	135,423	5,14,078	60,060	4,67,136	1,265,323	19,75,399
1255-59 (1845-50).	1,231,176	11,57,769	155,506	5,79,550	74,718	5,69,439	1,461,401	24,19,079
1270-74 (1855-59).	1,462,500	13,67,778	156,095	5,68,012	79,172	6,64,243	1,667,745	24,82,432
1275-79 (1865-70).	1,621,389	16,99,463	—	—	79,175	6,06,721	1,690,164	23,06,184
1283-84 (1870-75).	1,937,931	17,62,054	—	—	82,093	6,13,296	2,019,935	23,75,331
1285-89 (1875-80).	1,816,196	16,77,052	—	—	80,505	6,03,109	1,896,701	22,80,161
1290 (1880-81).	1,722,891	16,35,208	—	—	81,510	6,10,087	1,804,401	22,45,595

The wet assessment up to Faali 1244 is null, that is, after deduction of heavy remissions and cereals reductions; in the subsequent quinquennia it is always in gross, the exact remissions not being known. The distinction between garden and dry land was done away with in 1864 by the abolition of the special garden assessment; hence the garden area is lumped with the dry area after that date. Garden area in Faali 1290 was about 235,000 acres exclusive of team area, and paid an assessment of about Rs. 2,80,000. The area entered as garden up to Faali 1274 comprised a good deal of dry land included in the garden field (see the Rukamminah rules); the area for Faali 1290 includes only garden lands actually watered.

No. VII-E.

Comparative Statement of Cultivation.

Period.	Acrea.	Decrease.		Decrease in Population per cent., 1871 and 1881.	Decrease in Population per cent. from proba- ble average, 1870-75.
		Acrea.	Per cent.		
Average—1870-75	2,019,935	—	—	—	—
1881-82	1,804,401	215,534	10.67	8.93	9.1

No. VII-F.

Statement showing District Holdings and Revenue from Fash 1281 (1821-22).

FASIL	Dry.		Garden.		Wet.		Total.		Grass.	
	Acres.	Settle- ment.	Acres.	Settle- ment.	Acres.	Settle- ment.	Acres.	Settle- ment.	Acres.	Settle- ment.
1231 ...	1,077,057	9,74,107	139,770	5,00,039	36,232	4,20,617	1,273,059	18,94,763	600,175	1,32,624
1241 ...	1,087,646	9,86,350	118,007	4,43,725	42,409	3,47,998	1,248,146	17,78,078	586,428	1,51,714
1251 ...	1,070,792	9,67,532	137,732	4,81,410	62,333	4,70,084	1,270,847	19,19,026	273,963	63,104
1261 ...	1,173,130	10,47,886	169,925	5,56,719	66,483	5,00,633	1,409,537	21,06,226	169,333	35,960
1271 ...	1,470,783	12,65,793	159,438	5,95,174	77,462	6,87,218	1,707,685	26,48,516	...	...
1281 ...	2,205,389	19,70,804	...	...	88,537	6,57,968	2,293,926	28,32,559	...	...
1291 ...	2,167,259	20,12,984	...	...	85,794	6,30,434	2,253,053	28,49,418	...	...
Fasil.	Net Land Revenue including Pashmah, &c.		Sayer.	Abkari.	Moturpha.	Stampa.	Other Sources.		Grand Total.	
1281 ...	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1281 ...	21,15,236	1,69,432	28,336	83,685	...	...	...	23,97,689		
1241 ...	21,71,691	2,25,432	49,324	95,344	15,836	...	23,154	25,92,382		
1251 ...	21,18,940	1,63,982	45,973	76,130	10,850	...	26,814	24,58,889		
1261 ...	23,20,681	...	80,568	78,220	22,847	...	59,811	25,62,123		
1271 ...	22,72,630	...	1,36,238	...	59,400	...	68,220	27,20,408		
1281 ...	25,73,063	...	2,72,918	...	1,39,699	...	14,429	30,00,097		
1291 ...	24,93,947	...	2,29,374	...	2,01,069	...	15,870	29,40,200		

"Sayer" included the ancient inland customs and town duties; this item of revenue was abolished in Fash 1256 (1846-47). "Moturpha," which was the long series of petty taxes chiefly imposed on industries, and was of immemorial antiquity, was abolished in Fash 1270 (1860-61). "Other sources" include income and bonus taxes, extra revenue profits on tobacco (up to Fash 1230), &c. Forest revenue is included with other "Miscellaneous items" in "Net Land Revenue."

No. VII-G.

Statement of Holdings, Cultivation, Fallow, &c.

Quinquennial Fash.	Average.					
	Ryotwari Holdings.	Cultivation.	Fallow.	* Relinquishment.	Percentage of Waste to Holding.	Percentage of Relinquishment to Holding.
1271 to 1275 ...	1,962,084	1,725,042	235,040	20,827	11.97	1.06
1276 to 1280 ...	2,244,092	1,949,489	334,603	16,634	11.14	1.17
1281 to 1285 ...	2,295,135	2,040,479	254,656	22,552	11.08	.98
1286 to 1290 ...	2,314,531	1,847,906	407,224	18,965	20.18	.82

* Large areas were taken up so that relinquishments were usually far more than recouped. "Relinquishments" include only lands wholly relinquished, and not transfers from one ryot to another, often erroneously called and included under "Relinquishments." The only reasons given for relinquishments before the famine are poverty of low class subs, and unhealthiness of the locality, chiefly the latter. The results of the famine are shown in the large fallow area from Fash 1286; this was largely mere waste, due to the death or desertion of the poorer ryots who owned these poor areas; the so-called relinquishments of Fash 1289 and onwards are chiefly the nominal sales for nominal arrears. During the famine relinquishments were trivial, as these ryots were on relief; subsequent to Fash 1288 they were heavy.

No. VII-II.

Use and Value of the Natural Manure Agent.

The following is one among many possible quotations on this essentially important matter:—"The Flemish farmers are not content with using cattle-dung: they also employ street-sweepings, oil-cake, bones, sea-sand, and, above all, a manure in the preparation and use of which they are especially skilled, viz., human excreta. This manure though rejected with repugnance by many, and notably by the English, who however are now changing their minds, is amongst the most powerful, and those who neglect to use it, neglect a source of vast wealth. It is this manure which enables the Flemings to recuperate their soil, to extend its cultivation without injury to its fertility, and to surpass even the English in the productiveness of their crops. England employs three-fourths of its area in feeding its cattle, Flanders not more than a fourth, although proportionately more are raised on a given area: the use of human excreta accounts for the difference." (Translated from M. de Lavoigne's "*Economie Rurale de la France*," as quoted in W. T. Thornton's "*Plan for Peasant Proprietors*," p. 33, edition of 1874.)

No. VII-I.

The following extracts from Kay's "*Free trade in Land*" (Appendix) are so suggestive, that they may fitly find place in the appendix of a work which treats of a district of peasant proprietors.

The first extract relates to Prussia only, and attributes the excellent results of peasant proprietorship in that country to the following causes:—

"1. The extraordinary interest which the small proprietor feels in his little estate. It is this which makes himself and every member of his family not only willing, but desirous, to devote every leisure moment and every hour of day-light, to the improvement and cultivation of his plot of ground, and which urges him to avail himself of every little circumstance which can by any possibility increase the productiveness of his land, and which, in minute care, in cleanliness, in economy of ground, and of contrivances, and in beauty of appearance, raises his farming to the perfection of garden cultivation.

"2. The extraordinary pains which are always taken by peasant proprietors to collect, prepare, and employ manures.

"3. The much greater quantity of small products, such as eggs, butter, milk, honey, vegetables and fruit, which are obtained from a given quantity of land cultivated by small proprietors, than from an equal quantity of land cultivated by large proprietors, or by the tenants of such proprietors.

"4. That while, on the estates of great proprietors, acres of land often lie totally unemployed and uncultivated from want of capital, or from neglect, or from wasteful farming, not a single square yard of ground is neglected or uncultivated upon the estate of the small proprietor, but every smallest piece of ground is turned to some account, and, if capable of any cultivation, is forced to produce all that industry can possibly win from it.

"5. That even the hedges and the sides of the public roads are made available for the purposes of production, and are planted thickly with fruit trees, which richly requite the labours of the farmers; while in countries where the land is in the hands of few and great proprietors—our own for example—the thousands and millions of hedgerows are filled with useless brambles and underwood, and are made the breeding places of quantities of destructive vermin.

"6. To the above-mentioned causes, enumerated by Reichenasperger, may be added another:—That the particular kind of tillage, viz., spade-labour, often pursued by peasant proprietors, of itself greatly increases the productiveness of the ground. The spade breaks and pulverises the soil much more finely than the plough and harrow do, and mixes the manure or lime with it much better. Fewer seeds are, therefore, choked or smothered, the grain shoots better and grows stronger, and the produce of any given number of acres is very considerably increased."

"The peasant farming of Prussia, Saxony, Holland, and Switzerland is the most perfect and economical farming I have ever witnessed in any country. No pains, no means, are spared to make the ground produce as much as possible. Not a square yard of land is uncultivated or unused. No stones are left mingled with the soil. The ground is cleared of weeds and rubbish, and the lumps of earth are broken up with as much care as in an English garden. If it is meadow land, it is cleared of noxious herbs and weeds. Only the sweet grasses, which are good for the cattle, are allowed to grow. All the manure from the house, farm, and yard is carefully collected and scientifically prepared. The liquid manure is then carried in hand-carts like our road-watering carts into the fields, and is watered over the meadows in equal proportions. The solid manures are broken up, cleared of stones and rubbish, and are then properly mixed and spread over the lands which require them. No room is lost in hedges or ditches, and no breeding places are left for the vermin which in many parts of England do so much injury to the farmers' crops. The character of the soil of each district is carefully examined, and a suitable rotation of crops is chosen, so as to obtain the greatest possible return without injuring the land; and the cattle are well housed, are kept beautifully clean, and are groomed and tended like the horses of our huntsmen."

"All the little proprietors are eager to find out how to farm, so as to produce the greatest results; they diligently seek after improvements; they send their children to the agricultural schools in order to fit them to assist their fathers; and each proprietor soon adopts a new improvement introduced by any of his neighbours."

"Among these intelligent peasants who labour on their own lands, there is no need to get up ploughing matches, to offer premiums for the best crops, for the largest turnips, or for the finest potatoes; or to get up cattle

shows and prize exhibitions, in order to promote a good system of farming. The peasant farmers feel themselves too immediately interested in the state of their farms to need such inducements to exertion as these; as they know that all they expend upon their little estates is a safe investment, and will be returned tenfold to themselves or to their children. This feeling stimulates the peasant proprietors of Germany, Holland, Switzerland and France to spend their earnings upon their lands, to adopt every discoverable means of improving their systems of tillage, to send their children to the agricultural schools, and to bring them up in habits of industry and economy."

"The Governments of Western Europe are doing a great deal to enable the peasant proprietors to acquire a knowledge of the best systems of agriculture and management of cattle.

The cantonal Governments of Switzerland have been earnestly engaged for several years in establishing, in various parts of the country, great schools, where the children of the farmers may be educated, at a very trifling expense, in the science of agriculture. I went over several, in company with M. de Fellenburg and M. Vehrli. I have described them more fully in the chapter on Swiss education.

To each of these institutions are attached a large farm, barns, cow-sheds, farm-yards, orchards, a plentiful supply of the best farm implements, a laboratory, and class-rooms. The greatest portion of the expense of maintaining them is defrayed by the cantonal Governments. Many of the sons of the peasant farmers enter these institutions after leaving the primary schools. They remain in them from one to three years. They learn there agricultural chemistry and practical farming. They are taught how to analyse earths; how to mix and manure them, so as to make them as fertile as possible; how to prepare and collect manures; how to drain land; how to tend and fatten cattle; how to manage the dairy; how to breed cattle, so as best to improve the stock; how to vary the succession of crops, so as to make the most of particular soils; how to prune fruit trees; and, in fact, the whole science of farming. Is it surprising that farmers educated in such a manner should be much more skilful, and should make much more out of their lands, than the farmers of our country? Similar colleges are being established throughout Germany.

But this is not all that is being done in foreign countries in order to secure a scientific system of farming among the peasant proprietors.

All the teachers of the village schools, as I shall hereafter show, are prepared for their duties in the villages, by a long and very careful preparation in the normal colleges.

Among other things which they learn in many of these colleges are botany, the art of pruning, and the art of gardening; and in some of them, as in the Bernese Normal College, they are taught and practised in farming.

This is done for two purposes: first, in order to strengthen their sympathies for the peasants, among whom they have in after-life to labour by accustoming them to all the habits of the peasants; and, secondly, in order to enable them to give the children in the village schools a rudimentary knowledge of pruning, gardening, and farming, so as to ensure their being

taught, at least, the first principles of these arts and so as to stimulate their interest in them, and to teach them that there is a right and a wrong way of conducting them. Boys who have received these ideas in early life will not afterwards scoff at instruction, but will always be ready, not only to receive but to seek out advice and assistance.

Science is welcomed among the small farmers of foreign countries. Each is so anxious to emulate and surpass his neighbours, that any new invention which benefits one, is eagerly sought out and adopted by the others.

The system of agriculture, therefore, good as it is among these intelligent peasant proprietors, is not at a standstill, but is making rapid progress. The Governments, poor as they are, have ample funds to devote to the best possible education of all classes."

No. VIII.

Statement showing particulars of the several Tenures other than Ryotwari.

Taluka.	—	The entire Beris of the Estate.	Peshcush or Quit-rent.	Number of Villages in each.
	<i>Names of the Palayapats.</i>	Rs.	Rs.	
Pollachi...	Utakuli	10,504	4,293	10
	Avalappampati	8,564	4,200	6
	Poravipalayam	8,750	2,804	3
	Negamam	5,195	2,480	2
	Sauntur	4,849	1,083	6
	Kotampati	5,028	1,800	7
	Ramapatnam	6,274	1,430	3
Udamal- pet.	Motratthi	7,265	1,969	1
	Maivalli	4,728	561	1
	Tungdeli	4,344	849	1
	Jotampati	1,009	143	1
	Vodapati	1,105	147	1
Karur ...	Andipati	15,451	5,165	7
	<i>Inam Villages or Jaghires.</i>			
Coimbatore.	Mallaripalayam	2,555	1,182	...
	Palathurai	526		
	Nachipalayam	724		
	Karinjamigoondanpalayam	643		
	Thumbagoundanpalayam	418		
	Naikampalayam	670		
	Vellimalaiputnam	905		
Kollegal...	Nallur	2,626	2,226	...
	Ukkiniyam	1,270		
	Satyagal	4,826		

No. IX.

Statement showing the Collection under the several heads of Revenue in the District of Coimbatore for a series of Years.

Yalla.	Official years.	Land Revenue.	Forest.	Alakary.	Income or License-tax.	Boa Customs.	Land Customs.	Salt.	Stamps.	Total.	Remarks.
Average ...	1875-84 ...	25,44,118	98,958	2,03,008	...	...	...	...	1,46,104	30,70,706	The fluctuations in land revenue collections from Pail 1286 are due to the famine with its heavy arrears, largely remitted and subsequently written off, also to several subsequent bad seasons involving dry remissions. Collections from Pail 1286 average Rs. 24,49,432; the decrease, averaging about 1 lakh per annum, is due to remissions in the famine and subsequent years; also partly to relinquishments and sales of poor lands after the famine.
1283 ...	1873-74 ...	25,32,333	1,19,779	2,66,249	20	...	...	...	64,816	50,03,725	
1284 ...	1874-75 ...	25,52,697	77,430	2,00,032	7	...	...	...	1,70,539	31,00,709	
1285 ...	1875-76 ...	25,90,812	92,860	2,33,830	0	...	...	...	1,67,420	30,80,021	
1286 ...	1876-77 ...	12,40,000	69,384	2,11,484	...	...	...	...	1,70,715	16,70,849	
1287 ...	1877-78 ...	18,75,134	84,153	1,81,518	...	...	...	...	4,73,586	26,13,301	
1288 ...	1878-79 ...	34,02,783	79,714	2,36,170	41,802	...	...	...	1,70,017	39,85,076	
1289 ...	1879-80 ...	20,32,808	43,869	2,57,597	15,000	...	...	...	2,60,106	25,50,080	
1290 ...	1880-81 ...	31,70,969	79,093	1,77,659	12,645	...	...	...	1,92,030	36,33,556	
1291 ...	1881-82 ...	22,87,402	98,583	2,34,125	12,378	...	...	...	2,01,039	28,36,517	
1292 ...	1882-83 ...	31,29,004	1,42,283	2,32,125	15,728	...	...	...	1,95,005	37,22,745	
Average ...	1283-92 ...	24,82,018	67,795	2,45,844	...	...	...	...	2,02,907	30,14,167	

Nos IX-A.

Statement of Revenue by Taluks.

Taluka.	Fiscal.	Land Revenue.				Road Cess.	Abkary.	Stampa.
		Wet.	Dry.	Miscellaneous.	Total.			
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Coimbatore ...	1281	61,854	2,22,113	4,832	2,88,799	23,852	69,000	43,700
	1291	77,122	2,20,558	14,137	3,11,817	24,097		60,075
Satyamangalam.	1281	1,32,813	1,97,842	3,714	3,34,369	22,593	43,057	3,621
	1291	1,34,422	1,64,013	5,389	3,03,824	21,203		6,716
Kollegal ...	1281	22,076	64,125	1,044	87,245	6,756	13,472	6,956
	1291	18,662	60,145	1,224	80,031	6,152		9,391
Pollachi ...	1281	23,110	1,88,942	1,587	2,13,619	15,895	31,050	5,063
	1291	28,697	2,00,884	3,272	2,32,853	18,310		8,767
Palladam ...	1281	25,291	3,38,344	4,210	3,67,845	27,285	30,320	6,576
	1291	17,493	2,98,843	6,422	3,22,758	26,193		8,154
Dharmapuram ...	1281	58,063	2,62,759	9,625	3,30,447	23,321	14,527	7,230
	1291	62,805	2,50,077	9,744	3,31,626	26,222		8,571
Karur ...	1281	89,396	1,72,582	4,881	2,66,859	20,887	13,540	15,049
	1291	89,457	1,84,033	7,487	2,80,977	21,448		35,328
Udamalpet ...	1281	49,000	1,44,773	2,468	1,96,241	14,786	15,412	28,350
	1291	51,066	1,53,800	6,755	2,11,621	15,452		27,108
Erode ...	1281	90,942	2,87,207	8,655	3,87,004	27,092	30,222	18,382
	1291	95,924	2,03,417	14,355	3,13,696	27,530		33,570
Bharani ...	1281	3,363	1,05,250	1,783	1,10,396	8,290	12,065	3,773
	1291	3,257	90,477	3,215	96,952	7,954		3,911

Statements Nos. X to XIII are applicable to Maritime Districts only, and not to Coimbatore.

No. XV.

Statement of Persons tried, convicted, acquitted, and of Property lost and recovered for a series of Ten Years.

Nature of Offences.	1874.						1875.					
	Number of Persons tried.	Accused or Dis- charged.	Convicted.	Remaining under Trial.	Property		Number of Persons tried.	Accused or Dis- charged.	Convicted.	Remaining under Trial.	Property	
					Stolen.	Recovered.					Stolen.	Recovered.
1. Murder	13	11	6	...	na.	6	17	7	10	...	na.	
2. Culpable homicide	4	1	1	...	...	...	4	...	4	...	...
3. Rape	2	1	1	...	...	...	...	2	1	...	...
4. Hurt and assaults	2,140	1,314	868	2	...	...	2,304	1,313	991	...	...
5. Other offences against person	123	70	51	2	...	...	122	60	52	10	...
6. Drunkenness	67	50	17	...	na.	...	33	8	15	...	na.	
7. Robbery	18	5	13	...	...	...	25	6	19	...	...
8. House-breaking	196	36	160	...	3,377	485	160	80	140	...	854	
9. Theft	1,129	231	898	...	1,312	1,146	1,092	175	917	...	315	
10. Other offences against property	1,159	604	480	75	38,179	12,124	2,445	805	1,624	16	15,485	
Do.	1,184	492	643	49	20,248	6,523	1,150	214	787	32	17,904	
Total ...	5,999	2,715	3,166	158	5,108	...	7,229	2,611	4,560	58	26,041	
12. Special and Local Laws, chiefly Municipal ...	4,147	537	3,582	28	68,237	21,443	3,795	518	3,277	...	70,539	
Grand Total ...	10,146	3,252	6,738	155	68,237	21,443	11,024	3,129	7,837	58	70,539	
											24,323	

No. XV—(Continued).

Statement of Persons tried, convicted, acquitted, and of Property lost and recovered for a series of Ten Years—(Continued).

Nature of Offences.	1876.						1877 (Famine year.)					
	Number of Persons tried.	Acquitted or Discharged.	Convicted.	Remaining under Trial.	Property		Number of Persons tried.	Acquitted or Discharged.	Convicted.	Remaining under Trial.	Property	
					Stolen.	Recovered.					Stolen.	Recovered.
1. Murder	23	19	14	..	66.	66.	57	34	16	7	61.	66.
2. Culpable homicide	8	4	4	..	..	..	18	7	11	..	110	74
3. Rape	1	1	..	..	..	..	..	..	..	..	..	..
4. Hurt and assaults	2,454	1,350	1,104	..	..	..	1,944	645	599	..	..	..
5. Other offences against person	211	111	93	7	..	..	149	39	105	4	..	..
6. Dacoity	93	42	51	..	3,315	549	674	332	284	57	19,917	2,463
7. Robbery	19	6	13	..	726	84	65	14	50	1	2,904	382
8. House-breaking	210	55	151	4	20,741	6,703	688	51	616	21	37,359	5,866
9. Theft	1,193	171	1,022	..	20,821	6,832	8,256	294	5,876	86	51,148	12,101
10. Other offences against property	1,007	533	380	94	4,712	1,528	780	296	444	38	12,710	2,354
11. Do.	852	167	698	17	..	..	699	132	461	66	..	..
Total	6,111	2,459	3,650	123	50,315	14,756	10,589	1,847	8,402	260	1,23,448	26,760
12. Special and Local Laws, chiefly Municipal	9,327	482	2,834	11	..	..	3,100	210	2,887	12	..	..
Grand Total	9,433	2,941	6,364	133	50,315	14,756	13,698	2,057	11,349	292	1,23,448	26,760

No. XV—(Continued).
Statement of Persons tried, convicted, acquitted, and of Property lost and recovered for a series of Ten Years—(Continued).

Nature of Offences.	1878 (Quarterly Totals.)						1879.					
	Number of persons tried.	Acquitted or discharged.	Convicted.	Remaining under trial.	Property		Number of persons tried.	Acquitted or discharged.	Convicted.	Remaining under trial.	Property	
					Stolen.	Recovered.					Stolen.	Recovered.
1. Murder	29	8	21	...	...	...	17	8	9	...	...	...
2. Culpable homicide	10	2	8	...	...	...	9	4	5	...	...	...
3. Rape	...	...	...	...	...	...	...	...	...	...	...	...
4. Hurt and assault	1,242	503	669	7	...	...	1,108	517	651	...	...	...
5. Other offences against person	124	48	73	...	...	...	132	51	81	...	...	...
6. Decency	211	100	90	12	12,125	1,030	87	45	29	13	6,021	374
7. Robbery	38	9	29	...	1,525	225	12	...	12	...	720	109
8. House-breaking	335	42	287	6	29,003	2,687	140	31	106	3	14,343	2,526
9. Theft	2,763	210	2,520	24	41,540	11,074	1,105	155	898	59	24,873	10,467
10. Other offences against property	942	435	458	49	5,810	1,802	595	325	255	14	4,805	2,123
11. Do.	822	105	580	35	...	...	748	161	525	62	...	...
Total	6,516	1,639	4,747	136	90,963	20,418	4,014	1,247	2,572	145	50,531	15,799
12. Special and Local Laws, chiefly Municipal	1,985	230	1,747	3	...	...	1,985	209	1,766	20	...	...
Grand Total	8,502	1,869	6,494	139	90,963	20,418	5,999	1,506	4,328	165	50,531	15,799

No. XV—(Continued).
Statement of Persons tried, convicted, acquitted, and of Property lost and recovered for a series of Ten Years—(Continued).

Nature of Offences.	1890.						1881.					
	Number of persons tried.	Acquitted or dis- charged.	Convicted.	Remaining under trial.	Property		Number of persons tried.	Acquitted or dis- charged.	Convicted.	Remaining under trial.	Property	
					Stolen.	Recovered.					Stolen.	Recovered.
1. Murder	36	39	40	41	42	43	44	45	46	47	48	49
2. Culpable homicide	29	23	6	1	...	...	5	1	4	...	...	...
3. Rape	8	4	3	...	...	...	25	4	10	11	...	...
4. Hurt and assaults	1,190	616	674	...	...	...	6	8	3	...	...	...
5. Other offences against person	111	45	62	...	...	...	1,463	853	632	2	...	...
6. Dacoity	47	25	20	2	2,006	204	81	41	35	...	...	...
7. Robbery	4	2	2	...	22	7	27	10	17	...	73	10
8. House-breaking	128	22	95	11	7,703	1,159	39	3	6	...	222	46
9. Theft	1,056	197	819	40	21,237	15,335	236	101	129	6	24,452	1,429
10. Other offences against property	587	295	277	15	9,982	4,604	872	243	585	44	11,253	4,853
Do. Penal Code.	776	171	531	74	...	...	969	400	568	18	3,061	400
Total	3,990	1,900	2,489	147	41,010	21,569	4,555	2,173	2,275	107	39,094	6,847
12. Special and Local Laws, chiefly Municipal	2,472	295	2,340	8	...	...	2,676	304	2,340	82	...	...
Grand Total	6,462	1,525	4,729	155	41,010	21,569	7,231	2,477	4,615	189	39,094	6,847

No. XV—(Continued).
Statement of Persons tried, convicted, acquitted, and of Property lost and recovered for a series of Ten Years—(Continued).

Nature of Offences.	1882.						1883.					
	Number of persons tried.	Acquitted or dis- charged.	Convicted.	Remaining under trial.	Property		Number of persons tried.	Acquitted or dis- charged.	Convicted.	Remaining under trial.	Property	
					Stolen.	Recovered.					Stolen.	Recovered.
1. Murder	20	12	8	2	na.	na.	56	47	9	9	na.	na.
2. Culpable homicide	11	6	5	0	na.	na.	17	8	9	8	na.	na.
3. Rape	1,353	777	576	na.	na.	na.	1242	801	441	na.	na.	na.
4. Hurt and assaults	89	53	36	na.	na.	na.	106	101	64	1	na.	na.
5. Other offences against person	2	1	1	1	na.	na.	48	17	31	na.	na.	na.
6. Drunkeny	17	1	13	3	458	74	14	1	13	na.	1,313	262
7. Robbery	203	78	125	28	156	1,632	138	29	109	na.	14,653	3,997
8. House-breaking	811	266	545	39	8,300	4,318	950	320	630	18	12,013	6,686
9. Theft	708	404	244	62	9,234	1,927	900	717	205	18	3,714	2,204
10. Other offences against property	766	273	479	43	na.	na.	1,120	472	593	55	na.	na.
11. Do.	4,061	1,811	2,062	188	23,804	8,356	4,006	2,360	2,189	101	38,164	18,900
Total												
12. Special and Local Laws, chiefly Municipal	1,900	271	1,584	45	na.	na.	2,447	377	2,067	3	na.	na.
Grand Total	5,961	2,082	3,040	233	23,804	8,356	7,053	2,743	4,206	104	88,164	18,900

No. XV.A.

Abstract showing Decennial Averages of Crime from 1865.

Offences.	Period.	Persons			Property	
		Tried.	Acquitted.	Convicted.	Lost.	Recovered.
1. Murder	1865-74	28	19	9	Rs.	Rs.
	1874-83	19	11	8	...	...
2. Culpable homicide	1865-74	11	6	5	...	...
	1874-83	5	3	2	...	...
3. Rape	1865-74	4	2	2	...	...
	1874-83	1	1	...	...	...
4. Harass and assaults	1865-74	1,768	800	968	...	...
	1874-83	1,887	918	740	...	...
5. Other offences against persons.	1865-74	247	132	115	...	...
	1874-83	129	66	63	...	...
6. Dacoity	1865-74	118	64	49	...	...
	1874-83	49	25	24	...	...
7. Robbery	1865-74	41	16	25	...	...
	1874-83	15	8	12	...	...
8. House-breaking	1865-74	194	51	143	...	...
	1874-83	183	46	137	...	...
9. Theft	1865-74	1,310	816	994	...	...
	1874-83	1,027	212	615	...	...
10. Other offences against property.	1865-74	782	394	388	...	...
	1874-83	1,050	524	505	...	...
11. Other offences against Postal Code.	1865-74	1,129	404	719	...	...
	1874-83	935	294	644	...	...
Total	1865-74	5,021	2,204	3,417	46,147	12,678
	1874-83	5,063	2,104	2,959	47,905	15,798

1877 and 1878 are omitted, being famine years; the average of 1874-83 is therefore for eight years only.

No. XVI.

Statement showing the Expenditure on Public Works from Imperial and Provincial Funds for the last Five Years.

Years.	Military.	Imperial.				Provincial.			
		Civil Buildings.	Agricultural.	Education and Navigation.	Total.	Civil Buildings.	Commercial.	Miscellaneous.	Total.
New works.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1878-79	57	83	...	7,281	7,451	10,820	5,016	...	10,636
1879-80	...	...	...	8,220	8,220	872	18,781	8	14,161
1880-81	...	...	...	7,933	7,933	5,960	19,067	...	25,957
1881-82	251	...	501	11,552	12,104	7,846	...	...	7,846
1882-83	...	...	1,927	35,451	38,408	12,100	...	...	12,100
Repairs.	...	...	...	...	...	...	...	...	...
1878-79	687	44	...	5,640	6,321	2,500	...	...	2,500
1879-80	192	...	7,272	50,172	57,630	1,962	...	...	1,962
1880-81	621	63	...	46,183	46,873	...	...	1,300	1,300
1881-82	526	...	8,305	57,831	66,163	778	222	...	1,000
1882-83	153	12	13,080	65,648	78,862	1,725	...	...	1,725

No. XVII.

Detailed Statement of Receipts and Expenditure of Local Funds under Art IV of 1871 for a series of Years.

Receipts.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.
Provincial Funds	11,920	40,635	24,595	23,778	30,788	5,430	1,650	258	1,050	1,030	1,002	1,050
Surplus Provincial Fund	6,000	3,000	3,700	2,815	4,151	6,803	2,929	1,813	1,929	1,802	1,855	1,050
Petty rents	5,457	6,400	6,065	6,385	6,099	5,312	4,307	5,057	7,109	5,540	5,729	5,729
Avenues	833	1,023	1,573	1,390	1,507	1,272	511	1,312	850	1,212	1,057	1,162
Fisheries	845	1,000	1,102	787	948	553	549	756	874	615	714	850
Land-cess	4,36,184	2,01,320	1,73,501	1,86,829	1,03,011	1,47,748	1,02,880	3,41,560	1,83,509	1,46,506	2,22,536	2,36,370
Tolls	8,309	11,400	7,740	6,331	6,780	6,902	12,321	28,275	22,342	30,837	30,340	28,682
Fees in schools	8	88	84	84	159	41	36	36	..	34	119	120
Contributions	..	2,553	822	373	320	200	200	100	100	206	60	211
Hospitals	..	1,378	633	569	1,457	1,206	1,547	1,025	1,033	1,802	1,855	1,113
Charities	4,850	4,848	4,848	4,848	4,820	4,831	4,077	4,823	4,828	5,078	5,201	5,220
Sale of books	..	33	33	230	270	356	183	105	277	443	707	554
Rumangul fees	..	535	628	257	68	188	277	240	305	305	350	424
Market route	1,310	1,948	2,304	8,130	15,942	22,481	22,889	24,850	26,440	29,603	23,908	32,868
Fines and penalties	97	..	..	..	..	..	187	105	102	108	202	169
Sale of materials	84	23	181	19	211	122	165	98	67	97	107	1,306
Sale of other property	234	135	1	165	1,251	122	165	98	67	97	107	1,306
Miscellaneous	..	..	..	..	..	..	..	..	..	..	..	..
Contributions from private individuals in aid of works	890	100	3,817	2,355	337	220	..	27,105	61	..	563	732
Public Works receipts and refunds	..	1,001	6,465	19,259	114	303	1,100	..	11,971	..	16	307
Miscellaneous debt account	862	194	1,216	1,091	515	727	1,880	40	520	1,55,084	1,09,458	1,01,260
Total	1,77,802	2,78,172	2,45,440	2,58,190	2,69,486	2,06,426	1,50,480	3,08,102	2,50,133	4,27,906	4,61,235	5,08,478

No. XVII.—(Continued).
Detailed Statement of Receipts and Expenditure of Local Funds under Act IV of 1871 for a series of Years—(Continued).

Expenditure.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.
Grant I.—												
New Works—												
Communications ..	26,859	41,249	74,474	35,000	30,556	27,477	1,453	1,467	629	1,816	25,052	23,819
Civil buildings ..	..	..	8,700	8,798	4,818	2,801	2,612	2,302	4,495	6,108	5,304	8,670
Miscellaneous public improve- ments ..	42	877	..	69	..	..	270	..	154	10	134	13,004
Repairs—												
Communications ..	1,10,546	1,12,918	1,24,073	1,23,574	1,13,355	1,13,282	60,529	26,123	1,07,706	1,22,200	94,355	1,02,021
Civil buildings ..	..	..	4,045	2,738	2,723	3,016	2,523	1,353	3,148	3,254	6,867	3,269
Miscellaneous public improve- ments ..	2,154	5,363	804	1,197	1,206	1,329	1,682	801	948	588	1,357	4,153
Public Works Department super- vision or cost of Local Fund												
Engineering Department ..	23,370	44,759	50,117	39,216	27,891	29,441	15,676	4,916	22,683	10,927	23,902	23,710
Tools and farrow ..	41	..	..	80	..	5	330	1,071	129	645	354	515
Tools and plant ..	718	1,090	1,098	631	637	1,160	108	587	2,238	229	654	374
Contingencies ..	23	34	..	..	..	..	..	..	327	15	..	..
Other establishments ..	4,570	5,313	5,047	27	..	..	..	440	..	15	..	..
Contributions ..	..	..	..	..	..	..	..	..	220	220	220	380
Miscellaneous ..	..	..	..	..	..	..	..	..	..	380	1	..
Payment on account of facilities adjustments ..	..	..	..	..	..	..	..	..	..	..	..	80,000
Total	1,67,765	2,12,112	2,63,564	2,11,887	1,81,356	1,79,141	79,039	32,450	1,42,683	1,55,395	1,69,328	2,20,823
Grant II.—												
Inspection ..	4,649	5,717	6,988	2,848	2,622	2,817	2,821	2,584	2,016	3,432	3,559	2,719
Training schools ..	..	..	..	..	..	..	..	..	..	..	..	..
Local Fund schools ..	486	573	801	895	583	423	410	391	2,204	2,607	2,306	5,237
									139	743	2,831	..

No. XVII—(Continued).
Detailed Statement of Receipts and Expenditure of Local Funds under Act IV of 1871 for a series of Years—(Continued).

Expenditure.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.
Grant II—(Continued)—												
Salary grant	200	187	21	410			298	23	187	170	18	...
Rent & grant	7,550	9,908	13,256	11,847	10,929	12,781	6,631	952	1,740	5,301	7,963	10,783
Miscellaneous .. ..	...	365	625	540	300	242	844	398	221	754	1,229	784
Total	12,845	16,740	21,151	16,643	14,700	16,276	10,504	5,108	7,526	12,910	17,946	20,523
Grant III—												
Hospitals and dispensaries	1,068	4,119	5,471	7,810	6,653	8,691	9,149	14,404	10,882	11,250	12,478	12,881
Vaccination	3,672	2,628	2,343	2,693	2,966	4,014	5,911	7,393	6,025	6,175	7,107	8,135
Sanitation	1,078	1,022	675	4,368	4,214	10,578	8,820	11,843	13,485	16,271	17,498	20,968
Markets	304	616	323	5,732	8,005	11,404	10,494	14,021	9,502	11,675	64,480	6,801
Clothiers	4,600	4,371	2,941	3,043	3,008	3,506	3,965	3,198	3,135	3,102	3,198	3,176
Bungalows .. ..	...	943	402	168	170	259	486	290	253	510	529	676
Contributions .. ..	...	645	859	2,950	3,212	3,761	3,521	4,458	4,300	6,015	4,546	7,569
Total	9,898	13,643	13,174	26,264	28,228	42,353	43,355	55,517	48,242	64,538	1,04,850	60,097
Grant IV—												
Contribution for controlling estab-												
lishment	525	890	990	1,000	710	700	740	1,136	...	1,491	...	2,341
Collector's establishment	500	877	1,200	1,300	1,200	1,200	1,200	1,176	1,176	1,200	1,200	1,200
Local Fund	248	824	804	795	804	808	821	796	795	1,458	2,006	1,748
Contingencies, &c. ...	70	1,041	470	190	67	445	216	304	266	1,371	2,142	1,812
Total	1,343	3,732	3,464	3,185	2,781	3,153	2,977	2,236	2,237	5,530	5,408	7,101
Miscellaneous debt accounts (more												
book entries)												
...	...	202	2,467	413	22	850	576	31	17	1,20,974	1,72,003	1,77,270
Total Expenditure ..	1,91,891	2,40,439	3,09,810	2,38,392	2,27,087	2,41,763	1,37,931	16,402	2,00,705	3,68,337	4,74,565	4,85,184
Closing Balance ..	13,979	31,733	—64,970	— 69	42,399	—35,327	22,129	2,42,700	58,428	69,631	—10,080	...
Grand Total	1,77,862	2,78,172	3,45,440	2,38,193	2,69,486	2,60,436	1,60,480	3,39,102	2,69,133	4,27,968	4,64,585	...

No. XVII-C.

Statement showing Sums available from Local Funds for Elementary Education, and their disposal.

Receipts (nominal),	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.
1. Balance (one-half of General Fund balance).	Rs. 43	Rs. 6,802	Rs. 14,103	Rs. 6,765	Rs. 3,666	Rs. 14,892	Rs. 21,098	Rs. 16,955	Rs. 11,565	Rs. 17,479	Rs. 29,326	Rs. 29,368
2. Provincial grant for Education	15,400	23,400	1,550	2,030	1,550	1,550	1,550	137	30,632	32,810	37,084	39,396
3. One-sixth land-cess	3	58	44	31,138	32,269	24,623	17,165	40,260	33	34	118	130
4. Fees in schools	..	575	700	84	159	41	33	26	100	100	50	210
5. Contribution for Educational Institution.	..	..	..	325	200	100	200	100	..	..	..	..
6. Receipts from endowments	..	..	..	..	..	..	..	..	..	..	..	..
7. Miscellaneous	..	..	..	200	276	885	186	165	305	680	767	555
Total	15,403	34,115	32,623	32,807	34,534	26,801	19,236	40,698	31,037	33,524	38,019	40,281
Total including balance	15,446	39,117	46,816	40,572	38,350	41,693	40,384	57,054	42,602	51,003	58,345	62,049
<i>Expenditure.</i>												
1. Public Works	..	..	1,457	1,630	..	..	..	..	1,010	..	280	2,658
2. Cost of Public Works improvement.	..	..	224	1,218	..	..	..	..	768	..	45	254
3. Cost of Local Fund Engineering establishment.	..	..	..	..	..	..	..	..	..	..	1	0
4. Tools and plant	1,000	11,050	20,000	15,500	8,250	..	..	..	..	..	..	..
5. Appropriation to the Road Fund.	4,649	6,717	6,388	3,848	2,822	2,817	2,821	2,584	3,016	3,435	3,559	3,719
6. Inspection	486	573	881	898	683	436	410	1,241	2,343	3,260	5,147	5,237
7. Local Fund schools	..	..	..	..	..	..	..	..	..	..	..	..
8. Local Fund schools	..	..	..	..	..	..	..	..	..	..	..	..
9. Grants-in-aid (a) Salary grants.	200	187	21	410	..	208	208	23	197	170	18	..
10. Grants-in-aid (b) Results do.	7,550	9,608	13,356	11,847	10,020	12,781	6,631	952	1,746	5,301	7,963	10,749
11. Schools aided in the mixed system.	..	..	..	..	..	..	..	..	..	..	..	..
12. Schools aided in the mixed system.	..	..	..	..	..	..	..	..	..	..	..	..
13. Miscellaneous	..	..	..	..	..	..	..	..	..	..	..	..
14. Share of the cost of general management.	394	519	621	372	320	384	400	252	224	754	1,229	784
Total	14,279	28,919	43,453	35,172	23,279	16,660	10,304	5,400	9,974	13,547	18,262	24,015
Unexpended	1,167	10,198	3,333	5,400	14,971	25,032	29,450	63,204	32,628	37,456	40,683	37,634

No. XVII.D.

Statement distributing the actual Expenditure from Local Funds on Elementary Education.

	1871-72.		1872-73.		1873-74.		1874-75.		1875-76.		1876-77.	
	Allocation.	Expenditure.	Allocation.	Expenditure.	Allocation.	Expenditure.	Allocation.	Expenditure.	Allocation.	Expenditure.	Allocation.	Expenditure.
1. Inspection ...	Rs. 4,740	Rs. 4,649	Rs. 7,120	Rs. 5,717	Rs. 6,700	Rs. 6,388	Rs. 3,030	Rs. 2,848	Rs. 3,030	Rs. 2,822	Rs. 3,030	Rs. 2,817
2. Training schools ...	...	...	...	...	...	...	...	...	...	...	...	...
3. Local Fund schools ...	780	486	780	573	929	861	1,030	898	870	883	1,040	836
4. Salary grant ...	230	290	320	320	320	21	...	410	...	...	...	...
5. Bonaria grant ...	10,300	7,650	13,150	9,908	12,800	12,260	14,020	11,847	15,000	10,929	15,000	12,781
6. Miscellaneous ...	...	...	...	808	800	625	600	640	1,000	360	810	242
Total	16,030	12,885	21,370	16,756	22,549	21,151	18,680	16,543	19,000	14,760	19,390	16,276
	1877-78.		1878-79.		1879-80.		1880-81.		1881-82.		1882-83.	
	Allocation.	Expenditure.	Allocation.	Expenditure.	Allocation.	Expenditure.	Allocation.	Expenditure.	Allocation.	Expenditure.	Allocation.	Expenditure.
1. Inspection ...	Rs. 3,160	Rs. 2,821	Rs. 3,710	Rs. 2,354	Rs. 4,230	Rs. 3,016	Rs. 4,240	Rs. 3,435	Rs. 4,200	Rs. 3,559	Rs. 4,300	Rs. 3,719
2. Training schools ...	...	...	2,500	860	2,500	2,204	2,752	2,507	3,071	2,306	3,020	2,166
3. Local Fund schools ...	870	410	440	301	350	139	3,830	743	4,120	2,841	6,720	5,047
4. Salary grant ...	...	298	...	221	480	197	280	170	280	18	...	...
5. Bonaria grant ...	15,000	6,531	12,500	932	7,500	1,746	9,328	5,301	6,872	7,902	7,000	10,780
6. Miscellaneous ...	1,020	344	750	398	750	224	750	754	1,197	1,220	1,400	784
Total	19,740	10,594	19,900	6,198	15,009	7,522	21,150	12,910	19,810	17,016	22,540	20,489

No. XVII-E.
Receipts and Expenditure of Dispensaries.

	Income.											
	Government Grants.			Local Fund and Municipal Grant.			Donations and Subscriptions.			Sale of Medicines.		
	1881.		1882.	1881.		1882.	Average to 1880.		1881.	Average to 1880.		1882.
	Average to 1880.	1881.		Average to 1880.	1881.		Average to 1880.	1881.		Average to 1880.	1881.	
Coimbatore	Rs. 132	Rs. 129	Rs. 129	Rs. 8,576	Rs. 7,048	Rs. 5,207	Rs. 90	Rs. 676	Rs. 450	Rs. 582	Rs. 3,174	Rs. 7,006
Pollachi	277	660	676	2,612	3,376	3,338	54	676	450	2	1,004	4,086
Karur	192	226	226	1,580	1,937	1,491	39	...	...	...	...	1,813
Dharmapuri	48	107	106	1,268	1,199	1,167	...	...	...	7	1	1,343
Erode	177	150	902	1,503	1,171	1,091	...	...	...	4	...	1,744
Bhavani	77	128	151	1,065	1,089	1,400	...	...	...	4	...	1,297
Kollegal	52	100	150	797	1,323	1,445	...	...	...	...	...	849
Mettraphaiyam	60	127	137	676	1,224	1,204	...	...	...	5	...	946
Udumalpet	67	118	106	1,818	1,348	1,382	...	...	...	...	...	1,885
Sacynmangalam	30	117	142	1,058	936	1,046	...	...	...	9	...	1,097
Polladam	90	114	179	847	1,172	970	...	...	...	...	...	966

No. XVII.E—(Continued).
Receipts and Expenditure of Dispensaries—(Continued).

	Expenditure.											
	Establishment.			Dieting.			Medicine.			Miscellaneous.		
	1881.		1882	1881.		1882.	1881.		1882.	1881.		1882.
	Average to 1880.	Rs.	Rs.	Average to 1880.	Rs.	Rs.	Average to 1880.	Rs.	Rs.	Average to 1880.	Rs.	Rs.
Coimbatore	...	...	...	...	...	...	...	...	...	...	...	...
Pollachi	...	...	...	...	...	...	...	...	...	...	...	...
Karur	...	...	...	...	...	...	...	...	...	...	...	...
Dindigul	...	...	...	...	...	...	...	...	...	...	...	...
Errol	...	...	...	...	...	...	...	...	...	...	...	...
Bhavani	...	...	...	...	...	...	...	...	...	...	...	...
Kollegal	...	...	...	...	...	...	...	...	...	...	...	...
Mottupillyyam	...	...	...	...	...	...	...	...	...	...	...	...
Udumalpet	...	...	...	...	...	...	...	...	...	...	...	...
Periyannur	...	...	...	...	...	...	...	...	...	...	...	...
Palladam	...	...	...	...	...	...	...	...	...	...	...	...
	452	667	804	..	51	72	337	301	45	183	327	169
	547	608	736	216	23	88	337	330	175	179	106	200
	437	692	905	79	211	315	233	381	108	1,137	218	290
	476	654	838	116	225	197	228	262	375	135	310	172
	384	555	720	22	195	169	284	395	491	158	293	196
	654	706	802	210	192	204	285	153	141	256	195	404
	946	813	965	96	122	132	659	322	196	138	65	61
	814	650	635	15	219	228	369	161	218	136	277	161
	635	1,251	1,374	43	130	102	654	528	652	321	464	78
	5,446	3,092	3,480	696	605	695	532	760	659	272	1,724	565
	1,732	1,023	1,953	1,249	1,320	1,032	1,306	1,053	1,140	3,258	5,239	1,251
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
	5,407	7,606	7,806	5,407	7,606	7,806	5,407	7,606	7,806	5,407	7,606	7,806
	5,294	6,171	5,294	5,294	6,171	5,294	5,294	6,171	5,294	5,294	6,171	5,294
	2,206	2,183	2,206	2,206	2,183	2,206	2,206	2,183	2,206	2,206	2,183	2,206
	1,253	1,354	1,253	1,253	1,354	1,253	1,253	1,354	1,253	1,253	1,354	1,253
	1,353	1,321	1,353	1,353	1,321	1,353	1,353	1,321	1,353	1,353	1,321	1,353
	1,551	1,351	1,551	1,551	1,351	1,551	1,551	1,351	1,551	1,551	1,351	1,551
	1,565	1,428	1,565	1,565	1,428	1,565	1,565	1,428	1,565	1,565	1,428	1,565
	1,432	1,451	1,432	1,432	1,451	1,432	1,432	1,451	1,432	1,432	1,451	1,432
	1,518	1,502	1,518	1,518	1,502	1,518	1,518	1,502	1,518	1,518	1,502	1,518
	1,188	1,065	1,188	1,188	1,065	1,188	1,188	1,065	1,188	1,188	1,065	1,188
	1,149	1,286	1,149	1,149	1,286	1,149	1,149	1,286	1,149	1,149	1,286	1,149

No. XVII-F—(Continued).
Number of Patients attending the Dispensaries—(Continued).

Hospitals.	Number of Patients.											
	1877.		1878.		1879.		1880.		1881.		1882.	
	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.
Colachelore	573	10,272	552	10,840	655	11,897	655	14,502	745	14,911	539	11,787
Paltheil	2,787	5,798	310	7,095	440	5,943	445	8,950	390	11,539	334	10,041
Karur	140	7,316	72	8,073	81	10,679	88	7,967	89	7,469	78	6,558
Dattapuram	...	5,015	7	5,578	43	9,069	89	6,573	89	6,554	69	6,333
Erude	219	6,573	176	5,723	232	9,291	96	6,622	63	6,770	66	7,983
Bhavani	271	1,878	113	5,140	104	5,244	104	3,320	101	2,590	65	4,370
Kollegal	...	2,388	...	2,417	8	3,318	97	9,271	42	3,873	24	4,698
Montpalaiyam	147	983	15	3,210	111	4,017	73	4,457	111	6,824	120	4,848
Channaray	...	4,203	56	3,511	93	4,236	87	4,162	86	4,665	69	4,168
Satyannarasipam	53	3,076	35	4,250	...	4,191	...	2,393	21	3,164	54	4,114
Palladam	...	...	...	...	...	1,532	3	1,533	20	1,835	20	2,122
Total	3,250	48,906	1,535	56,537	1,767	69,460	1,357	63,770	1,792	68,922	1,571	67,322

No. XVII-G.

Ratio of Patients to Population.

Hospitals.	Tahsil.		Patients in 1882.	Rate per mille.
	Population.	Area in square miles.		
Cumilatoro	267,804	677	12,326	64.6
Mettupálaiyam ... ..	...	...	4,968	
Pollhebi	173,909	445	10,425	60.29
Karúr	177,155	612	6,936	39.16
Uthirapuram	195,232	836	6,416	32.95
Erode	195,889	600	8,079	41.29
Bharáni	94,123	506	4,465	47.44
Kolligál	77,532	813	4,722	60.91
Udamalpet	112,572	365	4,297	37.6
Satyamangalam	151,313	959	4,168	27.6
Palladam	213,221	729	2,151	10.0
Total ...	1,657,699	6,553	68,803	...

No. XVII-H.

Nationality of Patients attending the Dispensaries.

Year.	Percentage.			
	Hindu.	Mahomedans.	Europeans.	Eurasians.
1876	86.65	9.95	.41	2.99
1877	89.01	8.74	.25	2.00
1878	89.07	8.55	.21	2.17
1879	87.14	10.43	.17	2.26
1880	79.59	17.21	.18	3.02
1881	86.17	10.79	.23	2.81
1882	87.28	10.20	.22	2.32

No. XVII-J.

Dispensary Statement.

Subject.	Year.													
	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	
Total cost per patient ...	A. P. 9 6	A. P. 14 8	A. P. 10 7	A. P. 15 6	A. P. 8 8	A. P. 6 0	A. P. 7 6	A. P. 6 3	A. P. 6 3	A. P. 6 10	...	...	A. P. ...
	0 10	6 4	2 5	4 10	2 5	1 7	0 3	1 0	2 7	1 1	...	...	...
Cost of medicines..	0 10	6 4	2 5	4 10	2 5	1 7	0 3	1 0	2 7	1 1	...	...	...
Death rates (In-patients) 1000 in.	3474	1900	1588	1291	1213	1211	567	1189	741	1071	...	...	...
Surgical operations.	..	..	..	..	..	22	46	82	98	123	187	196	3,331
						Major.	Major.	Major.	Major.	Major.	Major.	Major.	Minor.	

No. XVII-K.

Statement of Vaccination.

Period.	Average.							Remarks.
	Vaccinators.	Cost.	Cost.	Number per Vaccinator.	Cost per Case.	Population per Vaccinator.	Synapse Index per Vaccinator.	
							Ratio cases to Births at 25 per mille.	Ratio Unvaccinated to Susceptible.
								Ratio Infants (under one year) to Total.
1870-80 (annual average)	27	Rs. 4,597	Rs. 85,913	1,330	Rs. 0	65,300	233	10
1881	31	7,591	46,860	1,480	8	53,335	794	28
1882	23	8,383	60,347	1,829	3	50,003	1,096	29
1883	29	7,052	42,300	1,459	11	41,210	733	34
								Area, excludes Insect and hills. Vaccinators Municipal included. Population estimated.

No. XVII-L.

Cost of Sanitation.

Period.	Scavenging.		Water Supply.		Cleaning Prickly-fever and other improvement to Village-sites.		Sanitary arrangements made at Fairs and Festivals.		Other Sanitary Improvements.		Total Cost.
	Cost.	Ratio to Sanitary expenditure.	Cost.	Ratio to Sanitary expenditure.	Cost.	Ratio to Sanitary expenditure.	Cost.	Ratio to Sanitary expenditure.	Cost.	Ratio to Sanitary expenditure.	
	Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Total expenditure, 1871-83	65,412	50	15,607	14	9,036	53	7,085	06	18,171	17	1,10,211
Total expenditure, 1873-83	64,029	49	8,597	11	1,710	52	2,780	04	10,753	14	79,075
Average expenditure, 1873-83	10,680	50	1,779	11	342	52	557	04	2,151	14	15,815

No. XVII-M.

Public Chattrams.

Taluk.	Village.	Establishment.	Endow- ment money pay- ment.	Total.	
				Receipts of Ten Years	Expendi- ture of Ten Years
Coimbatore.	Gadale	1 Sweeper	Rs. 4	Rs. 108	Rs. 711
	Ramanaja chattram	Do. "	4	108	711
	Yartimodai	Do. "	4	108	709
	Obettipalayam	Do. "	4	84	675
	Hottupalayam	Do. "	4	108	1,172
	Terampalayam Tanni- pandal	1 Waterman	4	48	499
	Total ...			672	3,571
Erode.	Pennadurai	1 Sweeper	Rs. 2	84	689
	Vijayamangalam	Do. "	2	84	685
	Chengampalli	Do. "	2	84	668
	Chittala	Do. "	2	84	1,140
	Malayampalayam	Do. "	2	84	665
	Total ...			420	3,607
Dindigul.	Karandipadi	1 Sweeper	Rs. 4	84	666
	Nadukkal	Do. "	4	108	1,006
	Bhavani	Do. "	4	84	759
	Total ...			276	2,431
Salem.	Satyamangalam	1 Sweeper	Rs. 4	108	729
	Bannuri	Do. "	4	108	826
	Tak Dhimbam	Do. "	4	108	827
	Hassanur	Do. "	4	84	667
	Puliyampatti	Do. "	4	84	1,298
	Kottaimangalam	Do. "	4	84	938
	Talavadi	Do. "	4	108	719
	Tamirali	Do. "	4	108	2,551
	Guzallatti	Do. "	4	108	824
	Velamandi	Do. "	4	84	940
	Geddam	Do. "	4	10	4,163
	Total ...			984	15,513
Palani.	Aravali	1 Sweeper	Rs. 4	108	710
	Karunathamatti	Do. "	4	108	1,462
	Aravaliyalayam	Do. "	4	108	711
	Mandripalayam	Do. "	4	84	702
	Kallipalayam	Do. "	4	84	690
	Nallur	Do. "	4	84	668
	Kodungallipalayam	Do. "	4	84	841
	Thirupur	Do. "	4	...	461
	Total ...			680	7,022

No. XVII-M—(Continued).

Public Chuttrams—(Continued).

Taluk.	Village.	Establishment.	Endow- ment mainly pay- ment.	Total.	
				Receipt of Ten Years.	Expendi- ture of Ten Years.
			Rs.	Rs.	Rs.
Pollachi.	Pollachi	1 Sweeper Rs. 4.	84	840	678
	Oonungalatu	Do. " 4.	84	850	1,069
	Kinatrunkadavu	Do. " 4.	84	877	888
	Machinsyakunpalaiyam.	Do. " 4.	84	846	664
	Total ...		336	3,413	3,299
Dhārāpuram.	Kāngayam	1 Sweeper Rs. 4.	108	1,123	917
	Vulheikovil	Do. " 4.	108	1,080	851
	Chihār	Do. " 4.	108	1,080	714
	Māthār	Do. " 4.	108	1,080	850
	Mālanūr	Do. " 4.	108	1,093	711
	Gaudalam	Do. " 4.	84	847	689
	Total ...		624	6,303	4,692
Kārd.	Paramati	1 Sweeper Rs. 4.	108	1,080	711
	Pannam	Do. " 4.	84	841	665
	Nāgampalli	Do. " 4.	84	840	666
	Tennilēl	Do. " 4.	84	844	667
	Chinna Dhārāpuram ... ..	.....	...	...	...
	Total ...		...	...	...
Udamal- pet.	Periapatti	1 Sweeper Rs. 4.	108	1,084	1,040
	Pudupalaiyam	Do. " 4.	108	1,080	710
	Udamalpet	Do. " 4.	108	1,080	1,056
	Madushukulam	Do. " 4.	108	1,080	1,160
	Total ...		432	4,324	3,966

No. XVII-N.

Annual Rental of Local Fund Tolls for a series of Ten Years.

Name of Taluk.	Name of Toll.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	Average.
Bhavani ...	Bhavani Bridge ...	Rs. 2,530	Rs. 2,400	Rs. 2,340	Rs. 1,900	Rs. 2,200	Rs. 2,400	Rs. 2,010	Rs. 2,010	Rs. 2,010	Rs. 2,010	Rs. 2,175
Palladam ...	Noyol Bridge ...	...	...	...	...	...	Rs. 3,000	Rs. 2,020	Rs. 1,800	Rs. 1,800	Rs. 1,800	Rs. 2,139
Saiyamaulalam.	1 Bhavani Bridge ...	2,410	2,450	2,000	1,600	2,040	2,120	2,400	2,370	2,370	2,370	2,213
	2 Tola Dinham ...	1,000	930	710	1,020	1,030	1,025	1,060	1,130	1,130	1,130	1,036
Pollachi ...	On the road to Madura from Malabar.	...	...	...	3,660	5,220	7,040	7,780	8,035	8,035	8,035	6,944
Coimbatore	Bhavani Bridge at Mettupalayam.	...	...	...	4,000	5,800	6,570	6,560	6,370	6,370	6,370	5,006
	Total ...	5,930	5,780	5,010	12,020	17,280	22,245	22,030	21,805	21,805	21,805	—

No. XVIII.

Statement showing Receipts and Expenditure for Special Funds for the last Five Years.

	1878-79.				1879-80.				1880-81.				1881-82.				1882-83.			
	Balance at the beginning of the year.	Receipts during the year.	Total.	Expenditure during the year.	Balance at the end of the year.	Receipts during the year including the balance.	Expenditure during the year.	Balance at the end of the year.	Receipts during the year including the balance.	Expenditure during the year.	Balance at the end of the year.	Receipts during the year including the balance.	Expenditure during the year.	Balance at the end of the year.	Receipts during the year including the balance.	Expenditure during the year.	Balance at the end of the year.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			
1. Jungle Conservancy Fund	2,381	18,489	20,864	13,200	7,664	21,840	10,472	11,368	20,584	8,716	17,860	43,661	9,651	34,010	*	*	*			
2. Nalal Grass	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Cattle Pound	874	8,691	9,465	8,607	708	11,384	10,317	1,067	11,418	11,100	318	10,203	9,942	261	10,063	10,226	435			
4. Public Bungalow	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Endowment	468	145	614	...	614	709	...	769	981	...	981	1,175	18	1,162	2,292	...	2,292			
6. Village Services	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Canal and Ferry...	708	7,278	7,986	6,036	1,051	9,545	7,043	2,502	12,374	6,369	5,315	22,242	12,000	9,630	32,213	10,620	11,614			
8. Irrigation Cess	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	4,433	34,407	38,929	28,832	10,007	42,538	27,832	15,176	51,337	25,077	24,680	77,281	32,212	45,069	85,168	50,827	14,341			

* Transferred to Forest Department.

No. XVIII-A.

Abstract Statement of Pounds.

Taluka.	Annual Average.				Number of Pounds.
	1873-78.		1878-83.		
	Receipts.	Expendi- ture.	Receipts.	Expendi- ture.	
	Rs.	Rs.	Rs.	Rs.	
Bilvaani	352	83	386	206	32
Coimbatore	834	280	1,283	1,121	57
Dhakarapuram	451	200	713	508	52
Krode	722	248	929	709	43
Karur	2,130	318	2,559	1,530	61
Kollegal	565	189	603	445	40
Pollachi	881	281	805	607	65
Palladam	479	359	583	478	60
Sotyanangalam	1,340	404	1,439	1,037	90
Udamalpet	536	42	656	382	26
Total	8,281	2,398	9,959	7,430	536

No. XIX.

Statement showing the Progress of Education for a series of Ten Years in the Coimbatore District.

Description of Schools.	1874-75.			1875-76.			1876-77.			1877-78.			1878-79.		
	No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.	
		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.
A—Government Schools.															
Maintained from { Higher Imperial Pro- { Middle vincial Funds. { Lower	4	269	82	5	56	349	5	104	224	5	86	454	5	83	284
Maintained from { Higher Local or Muni- { Middle cipal Funds. { Lower	1	45	30	1	4	23	1	6	35	1	3	26	1	2	112
Total	8	420	112	7	432	372	6	372	259	10	671	480	16	481	396
B—Schools, Aided.															
By Salary Grants. { College Higher { Middle Middle { Lower	1	353	284	1	22	106	1	24	107	1	25	110	1	23	10
	2	284	253	1	320	407	1	867	800	1	408	404	10	186	188
	1	253	253	...	...	...	...	...	...	1	404	418	2	198	...
By Revenue Grants { Higher Middle { Middle Lower { Lower	24	713	10,035	11	180	469	...	...	...	...	...	...	1	198	...
	680	...	...	763	11,846	469	476	7,335	761	178	4,085	404	136	3,501	64

No. XIX—(Continued).
Statement showing the Progress of Education for a series of Ten Years in the Coimbatore District—(Continued).

Description of Schools.	1874-75.			1875-76.			1876-77.			1877-78.			1878-79.		
	No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.	
		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.
B—Schools, Aided—(Contd.).															
Combined Salaries { Higher ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
and Results { Middle ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Grants, { Lower ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	708	12,543	—	707	12,801	507	470	8,799	751	184	5,155	516	125	4,432	64
C—Schools under inspection for { Higher ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Results { Middle ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Grants { Lower ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
but not aided.	10	322	115	32	571	268	1	19	16	187	2,842	100	95	1,205	165
Total ...	16	322	115	32	571	268	1	19	16	187	2,842	100	95	1,205	165
Number of successful candidates* for the Unconscripted Civil Service Examinations or Middle School, First-Class, selected in the district	16	17	—	17	17	—	—	11	—	—	31	—	—	14	—
Number of successful candidates for Special Tests	17	48	—	48	48	—	—	49	—	—	39	—	—	52	—
Number of successful candidates for Matriculation Examination	17	19	—	19	19	—	—	27	—	—	25	—	—	8	—
Number of successful candidates for V.A. Examination	...	...	...	...	...	...	...	...	...	...	4	...	...	3	...

* These figures are for calendar years from 1874 to 1883.

No. XIX—(Continued).
Statement showing the Progress of Education for a series of Ten Years in the Colima District—(Continued).

Description of Schools.	1879-80.			1880-81.			1881-82.			1882-83.			1883-84.		
	No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.	
		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.
A—Government Schools— (Continued).															
Maintained from { Higher	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Imperial or Pro- { Middle	5	106	...	5	170	...	5	224	...	5	271	...	5	369	...
vincial Funds. { Lower	6	278	...	5	203	...	4	168	...	4	159	...	...	...	...
Maintained from { Higher	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Local or Munic- { Middle	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
pal Funds. { Lower	7	429	...	4	394	...	2	137	...	3	344	...	...	271	...
Total ...	17	812	...	14	757	...	12	537	...	13	798	...	11	649	...
B—Schools, Aided—(Cont.).															
By Salary Grants. { College	1	26	...	1	38	...	1	35	...	1	54	...	1	62	...
By Salary Grants. { Higher	1	9	...	2	148	...	2	143	...	2	137	...	3	109	...
By Salary Grants. { Middle	1	98	...	2	300	...	3	805	...	5	338	...	8	556	204
By Salary Grants. { Lower	4	480	...	3	480	...	3	410	...	3	342	52	...	...	...
By Results Grants { Higher	1	129	...	...	...	...	6	23	...	...	...	...	1	4	23
By Results Grants { Middle	1	229	...	...	...	...	8	8	...	10	111	...	19	100	...
By Results Grants { Lower	120	2,881	203	224	4,713	341	325	6,889	55	237	7,140	853	590	10,584	...

No. XIX—(Continued).

Statement showing the Progress of Education for a series of Ten Years in the Coimbatore District—(Continued).

Description of Schools.	1870-80.			1880-81.			1881-82.			1882-83.			1883-84.		
	No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.		No. of Schools.	Number of Pupils.	
		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.		Boys.	Girls.
B—Schools, aided—(Cont.).															
Consolidated Schools { Higher	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
and Results { Middle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grants. { Lower.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	120	3,562	232	218	10,712	841	267	8,042	432	288	9,342	489	656	13,892	227
C—Schools under inspection for Grants.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Higher	—	—	—	16	79	—	19	66	2	1	47	9	6	19	—
Middle	—	—	—	77	4,854	68	316	2,127	62	234	7,677	—	304	5,157	253
Lower	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
but not aided.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	203	7,312	148	93	4,935	68	335	5,243	64	278	7,369	9	310	6,176	253
Number of successful candidates for the Unconcentrated Civil Service Examinations or Middle School, first-class, educated in the district.	15	—	—	4	—	—	—	14	—	—	20	—	—	10	—
Number of successful candidates for Special Tests.	26	—	—	64	—	—	—	87	—	—	43	—	—	31	—
Number of successful candidates for Matriculation Examination.	30	—	—	60	—	—	—	26	—	—	47	—	—	66	—
Number of successful candidates for F.A. Examination.	9	—	—	—	—	—	—	8	—	—	4	—	—	13	—

* These figures are for calendar years from 1874 to 1893.

No. XIX-A.

Elementary Education in 1881-82

Taluka.	Number published for Examination.		Number of Schools actually examined.	Boys prepared for Examination.				Boys actually examined.	Expected earnings.	Actual earnings.
	Schools.	Pupils.		First Standard.	Second Standard.	Third Standard.	Total.			
Coimbatore	67	275	89	533	329	109	975	478	Rs. 3,692	1,300
Satyansangalam	35	442	14	248	116	78	442	123	1,825	308
Erode	47	515	24	256	108	61	615	203	2,013	500
Bhavani	24	204	11	137	61	5	204	140	643	283
Kollegal	32	431	20	221	124	16	431	240	1,376	506
Karur	61	557	39	392	116	40	557	303	1,160	1,045
Dindipuram	62	378	30	260	106	66	378	272	1,126	1,048
Palladam	74	580	43	347	162	61	580	416	1,160	1,078
Udamalpet	42	484	33	261	302	121	584	333	1,300	975
Pottachi	73	877	24	427	336	114	877	501	1,500	1,275
Total	516	5,549	307	3,103	1,739	701	5,543	3,434	15,734	6,316

No. XXI.

Statement of Diseases Treated at the several Hospitals and Dispensaries.

Chief Diseases.		Percentage of Cases under each Disease to Total Cases.						
		1877.	1878.	1879.	1880.	1881.	1882.	Average.
Constitutional, Zymotic.	Small-pox	29	01	01	..	02	04	06
	Malarious fever, ague, and remittent	10.70	20.61	25.24	17.06	13.23	10.64	16.34
	Cholera	1.46	04	..	..	22	05	37
	Other diseases of this order	42	99	55	85	125	57	76
	Rheumatic affections	4.29	4.13	4.01	5.04	4.33	6.13	4.31
	Scrofula	21	19	24	25	20	22	21
	Anemia	40	30	70	46	52	55	54
	Luprey	09	06	05	06	02	03	04
	Phthisis	04	12	08	16	14	15	11
	Dropsy	1.03	1.08	1.03	80	63	48	85
	Other diseases of this order	24	1.23	84	1.49	1.72	1.09	1.07
	Ophthalmia	12.13	7.04	9.08	8.08	10.55	12.77	9.94
	Inflammation of the external ear	3.64	3.02	3.80	5.20	5.78	5.41	4.46
	Gonorr	..	..	01	01	01	..	..
	Respiratory affections	2.39	2.52	3.30	4.09	2.88	3.14	3.10
	Heart diseases	07	07	10	14	12	11	10
	Dysentery	5.12	2.22	1.76	2.00	1.75	1.36	2.70
	Diarrhœa	4.21	2.12	1.66	2.12	1.99	1.69	2.34
	Worms	1.45	93	2.03	2.00	2.44	2.83	2.13
	Filter diseases	23	26	32	55	65	56	43
	Syphilis &c.	24	21	1.10	85	86	63	71
Local Diseases.	Gonorrhœa and its complications	2.91	2.62	2.00	2.39	1.98	2.08	2.33
	Abscess, boils and whitlow	6.11	6.28	4.89	4.95	5.26	4.91	5.37
	Skin diseases	6.28	6.88	5.99	6.54	6.67	7.50	6.63
	Ulcer	9.72	10.04	9.07	8.43	9.56	11.44	9.79
	Labour, premature, natural and difficult	11	09	48	16	14	21	19
	Other local diseases	15.39	17.94	14.91	15.77	18.69	18.19	17.21
	Debility and old age	1.11	1.06	1.04	98	90	79	98
	Poisons and poisoned wounds	23	38	38	25	23	31	29
	Injuries	4.18	4.38	3.17	4.20	4.32	5.47	4.27
	Syphilitic affections	1.98	2.59	2.69	9.06	2.13	2.23	2.43
	Total	100	100	100	100	100	100	100

No. XXII.
Statement of Births and Deaths for a series of Years.

Feet.	Population.	Births.	Rate per mille.	Deaths from								Total Deaths.	Ratio per mille.	Remarks.	
				Natural Causes.					Injuries.						
				Cholera.	Small-pox.	Fever.	Born-comp.	Plague.	All other Causes.	Homicide.	Accidents and Wounds.				Snake-bite.	Killed by Wild Beasts.
1877	373	1,050	4,750	...	...	5,300	7	280	78	10	11,029	...
1878	...	16,873	...	15	664	6,400	...	...	8,135	17	310	135	10	15,784	...
1879	...	17,672	...	627	290	8,041	...	...	7,853	69	400	117	16	17,603	...
1880	...	18,109	...	2,013	526	11,192	...	...	5,490	97	491	196	...	23,027	...
1881	...	20,173	...	63	480	11,143	...	...	2,884	153	421	151	...	31,025	...
1882	3,243	10,016	...	...	2,510	128	481	114	81	32,312	...
1883	...	29,532	...	...	2,512	10,543	...	...	2,910	109	425	122	23	33,360	...
1884	...	34,923	...	63	640	12,888	...	...	2,831	91	429	123	11	30,429	...
1885	...	32,621	...	14,280	227	11,493	...	...	9,753	94	301	104	7	30,027	...
1886	10,650	101	329	70	...	33,089	...
1887	...	13,664	...	20,333	610	11,637	...	...	25,877	123	689	123	...	78,028	...
1888	...	17,079	...	12,823	1,244	22,844	...	...	7,090	80	634	57	20	25,958	...
1889	233	338	16,661	...	...	1,487	71	365	80	10	17,710	...
1890	188	9,903	...	...	6,234	87	483	90	11	20,046	...
1891	237	10,572	...	...	7,534	72	601	85	15	23,969	13.71
1892	...	42,532	22.46	2,540	1,672	12,245	1,128	1,128	9,324	80	423	108	30	27,047	16.05

No. XXIII.

Statement by Taluks of Licenses under the Arms Act for 1882.

Taluka.	—	Total.
Bhavani	(VI) 1, (VIII) 8, (IX) 1, (XI) 53	53
Coimbatore	(VI) 8, (VII) 7, (VIII) 53	68
Dhārāpuram	(VI) 5, (VII) 2, (VIII) 35	42
Erode	(VI) 3, (VII) 2, (VIII) 48	53
Karūr	(VI) 2, (VII) 1, (VIII) 8	11
Kollegal	(VII) 1, (VIII) 294	295
Pollachi	(VI) 2, (VII) 2, (VIII) 80, (IX) 1	85
Palladam	(VI) 4, (VIII) 48	52
Satyamangalam	(VI) 2, (VII) 3, (VIII) 29, (XI) 19	53
Udumalpet	(VI) 1, (VII) 4, (VIII) 12, (IX) 1	18

No. XXIII-A.

Description of Licenses under the Arms Act.

—	Year.			
	1879.	1880.	1881.	1882.
Form Nos. II, III, IV, V	...	...	...	...
Do. No. VI.—Licenses to manufacture, sell, &c.	39	25	9	23
Do. " VII.—Do. to keep and sell, &c.	6	9	9	22
Do. " VIII.—Do. to possess arms, &c.	290	525	458	541
Do. " IX.—Do. for a journey	...	6	...	3
Do. " XI.—Do. for the possession of arms, &c., for the destruction of wild animals.	33	107	66	72
Total	330	780	553	671

No. XXIV.

Statement of Stamp Vendors.

Taluka.	Licensed to sell up to Rs. 50.	Licensed to sell up to Rs. 100.
Bhavani	9	...
Coimbatore	29	5
Dhārāpuram	16	4
Erode	14	1
Karūr	23	4
Kollegal	12	...
Pollachi	11	...
Palladam	16	3
Satyamangalam	22	...
Udumalpet	17	3

No. XXV.

Statement of Opium and Drug Shops.

Taluka.	Places.	No. of Shops.	Rental 1881-82.	Rental 1882-83.	Rental 1883-84.	Rental 1884-85.
Bharani	Bharani	1				
	Andiyur	1	36	401	300	600
Coimbatore	Coimbatore	2				
	Meenupalattam	2	1,088	1,815	1,120	1,820
Dhāriparam	Dhāriparam	1				
	Kāngayam	1	54	29	10	55
Erode	Erode	2				
	Perumitturai	1	189	347	335	445
Karūr	Karūr	2				
	Avarakurichi	1	326	447	115	320
Kallagāl	Kallagāl	2	361	1,028	530	830
Palladam	Palladam	1				
	Avenāshi	1	97	141	65	165
	Tiruppur	1				
Pollachi	Pollachi	1				
	Anaimalai	1	155	29	165	210
Satyamangalam.	Satyamangalam	1				
	Chopabattipalattam	1	607	624	675	910
	Tamavadi	1				
Udamalpet	Udamalpet	1	23	52	13	56

No. XXVI.

Statement of Persons taxed under the License Tax Act, showing the Chief Industries of the District.

Trade, Dealing or Industry.	Class.	Annual Income.	No. of Persons taxed.
Artisans	VIII.	500—1,250	4
Contractor	III.	15,000—20,000	1
Do.	V.	5,000—10,000	1
Do.	VI.	2,500—5,000	1
Do.	VIII.	500—1,250	2
Dealers in animals	VIII.	500—1,250	4
Dealers in agricultural produce	I.	25,000 and upwards.	1
Do. do. do.	VI.	2,500—5,000	2
Do. do. do.	VII.	1,250—2,500	11
Do. do. do.	VIII.	500—1,250	99
Hotel-keepers	VIII.	500—1,250	2
Merchants—Hides	II.	20,000—25,000	1
Do. do. do.	VI.	2,500—5,000	2
Do. do. do.	VII.	1,250—2,500	1
Do. do. do.	VIII.	500—1,250	12
Money-changers	VIII.	500—1,250	2
Money-lenders	V.	5,000—10,000	4
Do.	VI.	2,500—5,000	5
Do.	VII.	1,250—2,500	67
Do.	VIII.	500—1,250	301
Owners of conveyances, &c.	VII.	1,250—2,500	1
Traders in woven fabrics and dress	VII.	1,250—2,500	4
Do. do. do.	VIII.	500—1,250	46
Building materials and furniture	VI.	2,500—5,000	1
Do. do. do.	VII.	1,250—2,500	3
Do. do. do.	VIII.	500—1,250	2
Metal	VIII.	500—1,250	7
Chillies	VIII.	500—1,250	4
Salt	VIII.	500—1,250	4
Spices, drugs and tobacco	VI.	2,500—5,000	2
Do. do. do.	VII.	1,250—2,500	2
Do. do. do.	VIII.	500—1,250	14
Oil	VIII.	500—1,250	1
Cotton twist	VIII.	500—1,250	1
Ghee	VI.	2,500—5,000	1
Do.	VIII.	500—1,250	7
Cotton	V.	5,000—10,000	1
Do.	VI.	2,500—5,000	1
Do.	VII.	1,250—2,500	1
Do.	VIII.	500—1,250	23
General	VI.	2,500—5,000	1
Do.	VII.	1,250—2,500	8
Do.	VIII.	500—1,250	63
Miscellaneous	VI.	2,500—5,000	1
Do.	VII.	1,250—2,500	12
Do.	VIII.	500—1,250	22
Animal and vegetable substances (not food)	VIII.	500—1,250	5
Joint Stock Company—Banking	III.	15,000—20,000	1
Do. do. do.	IV.	10,000—15,000	1
Cloth	VI.	2,500—5,000	3
Do.	VII.	1,250—2,500	4
Do.	VIII.	500—1,250	35
Famels	VII.	1,250—2,500	1
Do.	VIII.	500—1,250	2
Gold and Silver	VIII.	500—1,250	3
Teddy	VIII.	500—1,250	2
Cotton balers	VII.	1,250—2,500	...
		Total ...	510

No. XXVII-A.

Capacity of the Corimbators "Palaka" Measure.

Taluka.	Name of Measure used.	How used locally.	Cubic capacity of the specimen sent to the Board from each station.	Assumed normal contents of the selected standard in terms of second-sort rice.	Total contents in terms of Imperial bushels of 80 to the bushel.		Heaping allowance of the particular specimen in use in each station.	Total contents in terms of the Imperial bushel of 80 to the bushel.								
					First, first sort.	Second, second sort.		First, first sort.	Second, second sort.	Third, third sort.	Fourth, fourth sort.	Fifth, fifth sort.	Sixth, sixth sort.	Seventh, seventh sort.	Eighth, eighth sort.	Ninth, ninth sort.
1																
Kollegal	190	190	193	193	..	194	194	194	194	194	194	194	194	194
Satyamangalam	140	140	174	175	..	193	193	193	193	193	193	193	193	193
Blavani														
Palladam	144	144	180	181	..	189	189	189	189	189	189	189	189	189
Konda														
Corimbatore														
Pottachi	142	142	181	182	..	188	188	188	188	188	188	188	188	188
Karur														
Dharmapuri	100	100	2	201	..	154	154	154	154	154	154	154	154	154
Udumalpet														

No. XXVII-B.

Statement of Weights and Measures.

Capacity.	Weights.	Length and Distance.	Superficies.	Time.
<p>DRY MEASURES.</p> <p>Country measure = 64½ cub. inch. (native pail).</p> <p>2 country do. = 1 pakka meas. 3 pakka do. = 1 bulleh. 10 bullehs = 1 modak. 6 modaks = 1 pottl. The shajel varies from 60 to 88 pakka measures.</p> <p>3 bullehs } = 1 bushel of 18 pakka meas- } 2,218 cubic ures } inches.</p>	<p>1 stua or = 180 gra. tola.</p> <p>8 dundis = 1 pollam. 3 pollams = 1 vura. 5 vuras = 1 try vura. 8 vuras = 1 vira. 8 vira = 1 round (35 lb.)</p> <p>10 munnals = 1 pottl. 20 munnals = 1 candy or baram. 60 pollams = 1 okko (101 lb.)</p> <p>100 pollams = 1 thulam. 10 thulams = 1 kan- daram (rare).</p>	<p>8 inches = 1 span (4in). (angulum).</p> <p>12 inches = 1 foot (adl). 18 inches = 1 ellett (malam). 3 feet = 1 yard (palam). 3 ft. 4½ in. = 1 batham (ukar). from tip to tip of the fingers of the extended arms of a full man.</p> <p>16 mures = 1 chain (mangli 102 feet).</p> <p>24 feet = 1 pello (kai).</p> <p>1 nallai = 1½ miles (approximate).</p> <p>7½ nallais = 1 katham (10 miles).</p> <p>Popular expressions are an "mullipin" = about 100 yards; or the distance of a relations who does not care to particulars in his evidence; a katu or field, of which about 5 or 6 go to the mile, &c.</p>	<p>WET LAND.</p> <p>1 reed square = 1 gudi (576 sq. ft.)</p> <p>100 galls = 1 cawut (132 acres).</p> <p>1 ay (rare) = 12 avaris (1,564 acres).</p> <p>1 mah (rare) = 24 avaris = 3,128 acres.</p> <p>DRY LAND.</p> <p>4 chains square = 1 bulleh (408 ft.) (382 acres).</p> <p>These measures are now being replaced by the new survey unit, viz., the acre divided into 100 galls for purposes of account.</p>	<p>24 auras = 1 nallai. 24 nall. = 1 hour. 7½ do. = 1 watch (dynam).</p> <p>60 do. = 1 day (24 hours).</p> <p>Colloquial expres- sions are— cock-crow = 4 a.m. sunrise = 7 a.m. retire of the cattle = 4-5 p.m. lamp-light = 6-7 p.m. supper = 7-8 p.m. inspection of, or return to, the peta = 8-9 p.m.</p>
<p>LIQUID MEASURES.</p> <p>3 pakka measures = 1 koram (about 3 gallons).</p> <p>6 kadamas = 1 pottl.</p>				

No. XXVIII.

Statement of Toddy and Arrack Shops, 1882-83.

Taluka.	Toddy				Arrack							Miscellaneous.			Remarks.				
	Shops.		Annual amount of Karn.	Population per Shop opened.	Square miles per Shop opened.	Shops.		Annual amount of Karn.	Population per Shop opened.	Square miles per Shop opened.	Spirits issued from Distilleries to Depts.	Spirits issued from Depts. to Shops.	Spirits actually sold.						
	Number suctioned.	Number opened.				Number suctioned.	Number opened.												
Comblators	127	105	25,300	2,551	5.5	196	95	...	2,911	4.3	...	...	...	...	...	...	...	(Table Town.)	
Satyamangalam	172	147	11,000	1,029	2.6	194	65	...	2,327	5	...	...	...	...	...	...	...	...	(Table Town.)
Kollagall	43	34	5,100	2,280	11.2	114	73	...	1,004	5.2	...	...	...	...	...	...	...	...	(Table Town.)
Pollilal	68	66	5,450	2,020	5.8	162	69	...	2,745	6	...	...	...	...	...	...	...	...	(Table Town.)
Konda	133	132	13,000	1,453	4.5	151	54	...	3,025	11	...	...	...	...	...	...	...	...	(Table Town.)
Blaydel	60	69	4,000	1,295	5.1	112	34	...	2,768	9	...	...	...	...	...	...	...	...	(Table Town.)
Palladam	82	82	5,150	2,602	9	174	80	...	2,607	9.2	...	...	...	...	...	...	...	...	(Table Town.)
Dharcapuram	122	116	5,600	1,683	7.2	146	61	...	3,200	13.7	...	...	...	...	...	...	...	...	(Table Town.)
Kardir	69	69	4,400	3,003	9.4	113	66	...	2,684	8.4	...	...	...	...	...	...	...	...	(Table Town.)
Udamalpet	12	11	1,000	10,234	31	76	58	...	2,941	6	...	...	...	...	...	...	...	...	(Table Town.)
Total	878	811	93,400	2,044	6.2	1,458	646	...	2,563	8	...	...	...	...	...	...	...	...	...

The areas per shop are not quite correct, since Pālayapet areas are not included, nor any hill tracts, but only those included in the Revenue Survey. The comparatively large sales of arrack in towns are noteworthy.

No. XXIX.

Statement of Judicial Establishment, 1882-83.

				Number of Sub-divisions.	Area in square miles.	Population.	Chief Town with Population.	Number of Villages.
Civil.	District Judge	1	7,804	1,657,680	Coimbatore 58,907	1,447
	District Munsifs	...	...	5		
Criminal.	District Magistrate	...	...	1		
	Divisional do.	...	...	3		
	Sub-Magistrates (exclusive of Taluk Sheristadar Magistrates).	...	...	17		
Revenue.	Collector	1	10			
	Divisional officers	...	...	3		
	Tahsildars	...	...	10		

Magistrates of all sorts.	Number of Civil and Revenue Judges of all ranks.	Maximum distance in miles of Villages from nearest Court.	Average distance in miles of Villages from nearest Court.	Number of Police.	Total cost of Out-ride and Police of all kinds.	Revenue.	
						Land.	Grass.
District Magistrates ... 1	Civil 6	60	15	946	8,33,570	20,60,317	35,43,494
Divisional do. ... 3	Revenue 6						
Other 1st-class Magistrates 1	...						
2nd-class Magistrates ... 22	...						
3rd-class do. ... 6	...						
Magisterial Benches ... 3	...						
	36						

NOTE.—Europeans are the District Judge, Magistrate-Collector, and two of the Divisional officers. All others are Native officers. The Magisterial and Revenue officers are the same persons.

No. XXIX-B.

Police Statement for 1882.

Taluk.	Stations.	Hired buildings.	Local Rent Chattrams.	Regular Government disten.	Lock-ups.	Lives.	Strength.			Arms.	Villages in Range.	Roads in Range.	Forts and Forts.	Railway Stations.	Boats.		Meeting places with Boats from other Stations.	Markets.	Number of Attacks on Trains and other means of Public Safety.	No. of Convicted Persons.		Chief crimes of the Station Range on a ten years average.
							Head Constables.	Peonies or Sub.	Miscellaneous.	Muskets and Bayonets.					Road.	Village.				Known Offenders.	Ordinary.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Cumbalatore	10	...	...	10	16	20	17	109	25	91	293	9	6	6	29	24	21	15	289	125	2,009	Thief and burglary
Colamallipet	4	...	...	4	3	18	4	20	10	26	95	6	4	...	11	10	10	6	79	73	626	Cattle theft and burglary
Palkhal	6	...	...	6	7	25	7	51	20	39	168	6	6	...	13	17	13	6	216	83	896	Dacoity, robbery, burglary and theft.
Pallidum	8	...	...	7	8	27	10	63	25	53	195	7	...	4	25	21	24	22	191	91	1,274	Thief.
Illovel	6	...	...	6	14	22	7	41	16	25	66	7	30	...	19	4	21	11	174	87	824	Thief.
Koodu	8	...	...	7	0	18	10	68	24	54	210	9	8	6	23	23	24	19	296	191	1,062	Thief and burglary.
Karur	6	...	...	6	7	24	6	51	16	30	96	7	27	...	21	16	20	12	160	177	1,469	Murder, dacoity, burglary and theft.
Kollegal	5	...	...	5	5	19	9	71	36	44	152	5	9	...	13	9	13	4	128	51	285	Thief.
Ilharipuram	7	...	...	7	6	27	8	59	21	46	83	9	8	...	24	10	24	13	170	166	1,198	Dacoity, house-break- ing and theft.
Sacayamangalam	9	...	...	8	6	56	10	57	24	54	229	10	29	...	30	8	30	14	344	67	2,299	Do.
Total	70	116	59	84	234	61	637	227	483	1,662	76	126	20	258	142	200	122	2,007	1,989	11,861		

Each taluk has its own inspector. In addition, there is a separate Inspector for three stations (Mottupalayam, Sirmungel, and Annur) in Colimba-
 tore taluk, with head-quarters at Mottupalayam, another at Annur in Palladam taluk in charge of Annur, Chayur, and Karamalamjathi, and a third at
 Talavadi in Sacayamangalam for Talavadi, Talavadi, and Hosanur.

No. XXIX-C.

Taluk Establishment.

Taluka.	Class of Tahsildar.	Deputy Tahsildar.	Sheristadar.	Revenue Inspectors.			Guzastabs including Head Quasimab.	Shroffs.	Duffieband.	Peons including Duffadar, Sweepers and Light-bearer.
				1st Class.	2nd Class.	3rd Class.				
Bhavani	5	—	1	1	1	1	6	1	1	24
Coimbatore	3	—	1	1	1	2	9	2	1	25
Coimbatore town	—	1	—	—	—	—	2	—	1	3
Marupaliyana	—	1	—	—	—	—	2	—	1	3
Dharsapuram	3	—	1	1	1	2	9	2	1	24
Kangyam	—	1	—	—	—	—	2	—	1	3
Erode	2	—	1	1	1	2	6	2	1	25
Perundurai	—	1	—	—	—	—	2	—	1	3
Karur	4	—	1	1	1	1	6	1	1	24
Aravakurichi	—	1	—	—	—	—	2	—	1	3
Kollegal	5	—	1	1	1	1	8	1	1	24
Palladam	2	—	1	1	1	2	9	2	1	25
Avanadi	—	1	—	—	—	—	2	—	1	3
Pollachi	4	—	1	1	1	1	6	1	1	24
Satyamangalam	3	—	1	1	1	2	9	2	1	25
Talavadi	—	1	—	—	—	—	1	1	1	3
Udumalpet	4	—	1	1	1	1	9	1	1	24
Total	10	7	10	10	10	15	101	16	17	205

No. XXIX-D.

Statement of Village Establishment.

Taluka.	Village Magistrate.	Revenue Munsif.	Karnams.	Tahsildars.	Total.
Coimbatore	205	40	131	236	311
Satyamangalam	—	—	—	—	—
Kollegal	—	—	—	—	—
Pollachi	114	45	62	107	159
Palladam	—	—	—	—	—
Dharsapuram	63	185	106	191	365
Karur	80	103	60	154	363
Udumalpet	—	—	—	—	—
Erode	172	258	123	230	583
Bhavani	68	33	59	76	129

No. XXIX-E.

Statement showing Prisoners in 1882-83.

1	2	3	4		5		6		7			
Station.	Place of Confinement.	Classes of Prisoners.	Remained at the close of the year.		Received during the year.		Total.		Discharged from all Causes.			
			Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	
Coimbatore	Central Prison.	Convicts	850	28	887	313	9	222	1,074	373	10	869
		Under-trial	—	—	—	—	—	—	—	—	—	—
		Civil	8	—	8	57	3	60	68	61	3	64
		Security	—	—	—	—	—	—	—	—	—	—
		Insane	1	—	1	0	3	9	7	3	3	9
		State	1	—	1	—	—	—	1	—	—	—
	District Prison.	Convicts	125	8	133	309	30	339	464	331	24	375
		Under-trial	12	—	12	91	13	104	103	103	14	116
		Civil	—	—	—	—	—	—	—	—	—	—
		Security	1	—	1	—	—	—	1	1	1	1
	Insane	—	—	—	—	—	—	—	—	—	—	
	State	—	—	—	—	—	—	—	—	—	—	

No. XXIX-F—(Continued).
Statement showing Prisoners in 1882-83—(Continued).

Station.	Place of Confinement.	Classes of Prisoners.	8			9			10		
			Remaining at end of the Year.		Total.	Daily Average Number of each Class.		Total.	Total Daily Average of whole Jail.		Total.
			Male.	Female.		Male.	Female.		Male.	Female.	
Cedarvale —(Cont.)	Central Prison —(Cont.)	Convicts	699	21	720	780.14	98.57	878.71	788.15	26.89	815.15
		Under-trial	—	—	—	—	—	—			
		Civil	4	—	4	7.35	.10	7.44			
		Security	—	—	—	—	—	—			
		Insane	1	—	1	.67	.23	.90			
		State	1	—	1	1.00	—	1.00			
	District Prison —(Cont.)	Convicts	133	14	147	105.46	9.12	114.58	108.70	10.08	119.88
		Under-trial	1	1	2	4.10	.96	5.06			
		Civil	—	—	—	—	—	—			
		Security	—	—	—	—	—	—			
		Insane	—	—	—	—	—	—			
		State	—	—	—	—	—	—			

No. XXX.

List of Collectors in the District of Coimbatore.

Names of Collectors.	Permanent, Acting, or in Charge.	Length of tenure of Office.		Remarks.
		From.	To.	
Captain William Macleod. (a)	Permanent	6th July 1799	2nd May 1803	(a) Collector of North Coimbatore and part of Salem.
Mr. D. Cockburn	In charge	4th March 1801	7th May 1801.	(b) Collector of South Coimbatore and part of Madras.
" J. Hepburn	Do	2nd October 1801	19th October 1801.	
" T. B. Hurdle (b)	Permanent	6th July 1799	.....
" H. S. Gurnoo	Do		24th November 1804.	(c) In charge of North Coimbatore
" W. Garrow (c)	In charge	16th July 1802	2nd May 1803	
Do	Permanent	2nd May 1803	24th November 1804.	(d) South and North Coimbatore were united on 24th November 1804 and placed under Mr. Garrow.
Do. (d)	Do	24th November 1804	20th January 1815	
" J. Riddell	In charge	10th May 1806	16th August 1806.	
Do.	Do	11th January 1811	25th April 1811.	
" J. C. Walsh	Do	1st June 1814	27th June 1814	
Do.	Do	21st January 1815	7th March 1815.	
" William Bell.	Do	15th March 1815	1st April 1815.	
Do.	Acting	2nd April 1815	12th September 1815.	
" J. Sullivan	Permanent	12th September 1815	25th January 1820.	
" J. C. Walsh	In charge	5th March 1817	20th May 1817.	
" W. Thackeray.	Acting	26th May 1817	24th June 1818.	
" J. C. Walsh	In charge	5th October 1818	20th November 1818.	
Do.	Do	2nd July 1819	4th January 1820.	
Do.	Acting	5th January 1820	16th February 1821.	
" J. Thomas	Permanent	25th January 1820	9th November 1822.	
" J. F. Thomas	Acting	31st July 1822	9th November 1822.	
" G. D. Drury	Permanent	10th November 1822	1st March 1841.	
" H. Frère	In charge	25th June 1838	9th August 1838.	
" W. Robinson.	Acting	10th August 1838	28th April 1840.	
" W. C. Ogilvie	Do.	28th April 1840	26th August 1840.	
" G. D. Drury	Do.	2nd March 1841	20th March 1841.	
" J. Bird	In charge	20th March 1841	5th April 1841.	
" J. C. Wroughton.	Permanent	12th February 1841	14th March 1851.	
" J. Bird	In charge	29th April 1841	5th May 1841.	
Do.	Do	6th February 1843	30th March 1843.	
Do.	Do	9th January 1849	30th March 1849.	
" E. B. Thomas.	Acting	31st March 1849	14th March 1851.	
Do.	Permanent	14th March 1851	4th May 1852.	
" W. E. Underwood.	Acting	10th October 1851	1st April 1852.	
" W. M. Moile	In charge	30th November 1852	20th January 1854.	
" M. J. Walhouse	Do	19th October 1851	18th November 1854.	
" G. S. Morris	Do	14th January 1856	14th February 1856.	
" M. J. Walhouse	Do	15th January 1851	13th February 1857.	
" J. W. Cherry.	Acting	29th March 1858	11th March 1859.	
" W. J. Walhouse.	In charge	12th March 1859	9th April 1859.	
" F. C. Cury	Do	1st May 1862	4th May 1862.	

No. XXX—(Continued).

List of Collectors in the District of Coimbatore—(Continued).

Names of Collectors.	Permanent, Acting, or in Charge.	Length of tenure of Office.		Remarks.
		From	To	
Mr. P. Grant	Permanent	3rd May 1862	12th March 1868.	
" W. MacQuhrie	In charge	9th October 1866	10th March 1868.	
" A. MacGregor.	Acting	25th September 1864	10th January 1867.	
" W. MacQuhrie	In charge	1st February 1868	14th February 1868.	
" A. Wedderburn	Acting	15th February 1868	12th March 1868.	
" Do.	Permanent	21st March 1868	16th March 1878.	
" A. MacWebster.	Acting	1st March 1869	31st March 1879.	
" J. W. Best	In charge	26th August 1869	27th September 1869.	
" H. E. Sullivan.	Acting	27th September 1869	9th May 1870.	
" J. W. Best	In charge	10th May 1870	9th July 1870.	
" H. E. Sullivan.	Acting	24th August 1870	25th February 1871.	
" J. W. Best	In charge	25th February 1871	28th February 1871.	
" A. MacWebster.	Permanent	16th March 1878	14th October 1879.	
" G. MacWatters	Acting	11th March 1879	5th June 1879.	
" A. T. Arndell.	Do	23rd September 1879	14th October 1879.	
" W. Wilson	Permanent	3rd October 1879	14th July 1882.	
" F. A. Nicholson	Acting	8th April 1880	11th August 1880.	
" Do.	Do	15th August 1881	4th October 1881.	
" G. D. Lemmon.	Do	15th August 1881	8th December 1881.	
" A. J. Stuart	Do	30th November 1881	17th March 1882.	
" G. D. Lemmon.	Do	9th March 1882	14th July 1882.	
" Do.	Permanent	15th July 1882	Up to date.	
" F. A. Nicholson	Acting	30th March 1883	4th June 1883.	

No. XXXI.

Statement of Literary Societies and Printing Presses.

Name.	Object.	From Govt.	From Govt. ment.	From Endowm.	From Subscrip- tion.	From Other Sources.	Total.	Members or Vol- unteers.	Registered or not.	When estab- lished.	Circulating Presses.			
											Name of Proprietor.	Publications (Periodi- cals, Newspapers, &c.)	Periodicals.	Job work.
Coimbatore Institution.	The promotion of intellectual, moral and social im- provement.	..	..	..	24.	215	215	215	No.	20th Dec. 1881.	Diakel Press.	Government	.....	.....
Ercole Read- ing Room.	Improvement of the members.	..	..	..	343	..	343	32	Do.	1879	Coimbatore Coffee Works Press.	Messrs. Stanol and Co.	.....	Job work.
Udumalpet Reading Society.	Reading newspapers	..	..	..	72	..	72	6	Do	1881	The Coimbatore Press.	S. P. Narasim- haiah Naidu, &c.	The Coimbatore Press & Print- ing Co.	Do.
Karur, Lit- erary Society.	Literary and social improvement.	9	..	9	24	Do.	9th Sept. 1882.



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